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S H I R L E Y S O L T E S Z S T E I N E R

**Quick Medical
Terminology:**
A Self-Teaching Guide
4th Edition

Shirley Soltesz Steiner, R.N., M.S.



John Wiley & Sons, Inc.

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For

Dorothy Elizabeth Wilson Soltesz who is my mom and best friend.

Mildred Hall who is my godmother and may not know how much she influenced my growing up years. Mildred assured me I had what it takes to go to college, get an education, and create a better life.

Contents

<i>To the Reader</i>	vii
<i>Objectives of the Program</i>	xi
<i>Pronunciation Key</i>	xiii
<i>The Word-Building Strategy</i>	xv
<i>List of Illustrations</i>	xxi
1 Basic Word Roots and Common Suffixes	1
2 More Word Roots, Suffixes, and Prefixes	21
3 Basic Anatomical Terms and Abnormal Conditions	43
4 The Genitals and Urinary Tract	65
5 The Gastrointestinal Tract	95
6 The Heart	115
7 Symptoms, Diagnoses, Treatments, Communication, Qualifiers, and Statistics	139
8 Growth and Development, and Body Orientation	169
9 Gynecology, Pregnancy, and Childbirth	195
10 The Eye and the Respiratory Tract	223
<i>Review Sheets</i>	249
<i>Final Self-Test I</i>	279
<i>Final Self-Test II</i>	283
<i>Appendix A: Medical Abbreviations</i>	287
<i>Appendix B: Forming Plurals</i>	289
<i>Index of Words and Word Parts</i>	293

To the Reader

What It Is and Who It's For

So you want to learn the language of medicine. Great! Everything you need for learning medical terminology is right in your hands. The language of medicine is precise and technically oriented. It is among the great tools of the mind for better understanding and more accurate communication between all practitioners of the life sciences. Learning this special language is your opportunity to be among them. *Quick Medical Terminology* can prepare you for a new job or even a new career in one of the nation's fastest growing job markets, Health Care and Allied Health Services.

In *Quick Medical Terminology* you'll learn to pronounce, spell, and define medical terms used in today's health care settings. You will use a word-building strategy that helps you discover connections and relationships among word roots, prefixes, and suffixes. You'll learn the meaning of each part of a complex medical term and be able to put the parts together and define the term. Very quickly you'll develop a large repertoire of useful medical terms, much greater than the 500-plus terms presented in this text.

Quick Medical Terminology is an enjoyable way to learn the very special language of medicine by yourself, at your own pace. If you speak and understand English and have a high school education or equivalent, you'll quickly learn the basics and much more.

How to Use This Program

We suggest you use the following steps to approach your learning.

Step 1. Pre- and Post-Testing

If it's worth learning, isn't it worth knowing you have succeeded? You will find two Final Self-Tests in the back of your guide. We suggest you take one test before you begin your study and take another after you have completed all your lessons. Pre- and post-testing shows you how much you have learned. Either one of the final tests may be used first.

Step 2. Self-Instructional Unit

This self-teaching guide lets you proceed at a pace that is right for you. It provides everything you need to complete each of the ten instructional units, which include:

Introduction and Mini-Glossary. The first page of each unit introduces you to what you will cover and provides a Mini-Glossary of the terms and word parts you'll be learning. You may want to refer to it as you proceed through the lesson.

Numbered frames. Numbered frames are the building blocks of each unit. A frame presents a small amount of information and expects you to read and think about that information. Then it asks you to respond to it.

The way you respond may be:

- to select a medical term or definition from a list of suggested answers.
- to write a medical term for a given definition.
- to draw a conclusion and write it in your own words.

Example

Emesis is a term that means vomiting. A term that means excessive vomiting is *hyperemesis*. Underline the part of the medical term meaning excessive.

A gallbladder attack can cause excessive vomiting. Write the term that describes this unpleasant condition. _____

Example

Myelo / dysplasia means defective development of the spinal cord.

Chondro means cartilage. What does *chondro / dysplasia* mean? _____

Answers. As you work through the unit, you'll find the correct answers on the left-hand side of the page. It's a good idea to use a folded piece of paper to cover the answer until you give your own. Your answer will be correct most of the time, but when your answer doesn't match ours, be sure you know why it doesn't. You may need to go back and review a few frames before continuing.

Pronunciation Guide. When you work with a medical term for the first time, the answer column guides your pronunciation of the new term. Take the opportunity to practice pronouncing each new term correctly several times. Say it aloud or subverbally (saying it to yourself).

Example

chondrodysplasia (kon'dro dis pla'zhe)

Review Exercises. Some units are longer than others, so to help you plan your breaks, we designed several short learning sequences into each unit. A brief

Review Exercise occurs at the end of a learning sequence. If you need a break, stop after a Review Exercise. Proceed at a pace that is right for you. We urge you to complete an entire unit before calling it a day.

Summary Exercise. Each of the ten instructional units ends with a Summary Exercise. This final exercise pulls together all the new terms you worked with in the unit. Using the pronunciation guide alongside each term in the list, take the opportunity to practice pronouncing each term correctly and defining it aloud or subverbally. It really works! You might ask a friend to pronounce each term in the list so you can practice spelling it when you hear it.

[This is a good classroom exercise for instructor-guided spelling practice, pronunciation practice and defining the terms.]

Unit Self-Test. Each unit ends with a Self-Test in two parts. Part 1 asks you to match a list of definitions with the correct medical terms. Part 2 asks you to construct the correct medical term for each definition listed. All terms and definitions are covered in the instructional unit you have just completed. Here's another opportunity to see how you're doing.

Step 3. Unit Review Sheet

Beginning on page 247, you'll find a two-part Review Sheet for each of the ten units of instruction that make up this self-teaching program. We suggest you begin every new unit (beginning with Unit 2) by completing a Review Sheet for the previous unit. These exercises are an important part of the learning program and will help you recall and practice the terms and definitions of the preceding unit before you begin the next one.

Part 1: Given a term, or word part, write the meaning.

Part 2: Given the definition of a term, write the correct term.

Correct answers are provided.

You may use these Review Sheets anytime, and as often as you wish. We suggest you make several photocopies of each Review Sheet and use them at any time to practice what you've already covered. There is never enough practice.

Objectives of the Program

When you have finished *Quick Medical Terminology*, you will have formed well over 500 medical terms using our word-building strategy combining prefixes, suffixes, and word roots to create complex medical terms.

1. You will learn to understand medical terms by breaking them into their component parts and learning the meaning of the parts.
2. You will learn to construct medical terms from component parts to express given definitions.
3. You will learn to pronounce, spell, and define medical terms used in this book.
4. You will be able to apply this word-building strategy to terms covered in this book and others you will come across as you work in a health care setting.

Pronunciation Key

The primary stress mark (') is placed after the syllable bearing the heavier stress or accent; the secondary stress mark (ˈ) follows a syllable having a somewhat lighter stress, as in *com·men·da·tion* (kom' ən·dā' shən).

a	add, map	m	move, seem	u	up, done
ā	ace, rate	n	nice, tin	er	urn, term
air	care, air	ng	ring, song	yōō	use, few
ä	palm, father	o	odd, hot	v	vain, eve
b	bat, rub	ō	open, so	w	win, away
ch	check, catch	ô	order, jaw	y	yet, yearn
d	dog, rod	oi	oil, boy	z	zest, muse
e	end, pet	ou	out, now	zh	vision, pleasure
ē	even, tree	ōō	pool, food	ə	the schwa, an
f	fit, half	oo	took, full		unstressed vowel
g	go, log	p	pit, stop		representing the
h	hope, hate	r	run, poor		sound spelled
i	it, give	s	see, pass		<i>a</i> in <i>above</i>
ī	ice, write	sh	sure, rush		<i>e</i> in <i>sicken</i>
j	joy, ledge	t	talk, sit		<i>i</i> in <i>clarity</i>
k	cool, take	th	thin, both		<i>o</i> in <i>melon</i>
l	look, rule	th	this, bathe		<i>u</i> in <i>focus</i>

Source: Slightly modified "Pronunciation Key" in *Funk & Wagnalls Standard College Dictionary*. Copyright © 1977 by Harper & Row, Publishers, Inc. Reprinted by permission of the publisher.

The schwa (ə) varies widely in quality from a sound close to the (u) in *up* to a sound close to the (i) in *it* as heard in pronunciations of such words as *ballot*, *custom*, *landed*, *horses*.

The (r) in final position as in *star* (stär) and before a consonant as in *heart* (härt) is regularly indicated in the respellings, but pronunciations without (r) are unquestionably reputable. Standard British is much like the speech of Eastern New England and the Lower South in this feature.

In a few words, such as *button* (but'n) and *sudden* (sud'n), no vowel appears in the unstressed syllable because the (n) constitutes the whole syllable.

The Word-Building Strategy

Quick Medical Terminology teaches you a strategy for word-building. The vocabulary of medicine is large and complex, but you can learn much of it by breaking down a complex term into its meaningful parts and putting together a word from those meaningful parts. Let's begin.

1.

All words have a word root. The *root* is the base or the foundation of the word, regardless of what other word, unit, or syllable may be attached to it.

For example: *do* is the root of *undo* and *doing*.

What is the root of import, export, transport, and support?

port

2.

In this example, the words suffix, prefix, affix, and fixation have fix as their _____.

root

3.

What is the root in tonsill/itis, tonsill/ectomy, and tonsill/ar?

tonsil

_____.

4.

Two or more words may be combined to form a meaningful compound word. Using two or more of the following words, create some meaningful compound words:

Some Suggestions:

overhang
overcome
understand
grandstand
outcome,
etc.

over	stand
hang	wear
under	come
grand	out

yes
two words are
combined to make
a meaningful
compound term

5.
Is teaspoon a compound word? _____
Explain your answer.

micr
tel
micr/o
tel/e

6.
A word root and a whole word may form a compound word. But the root must be in its *combining form*. The root plus a vowel (a, e, i, o, u) makes the combining form. Here are two compound terms, micr/o/scope and tel/e/cast.
What are the word roots? _____;
What are the combining forms? _____.

phon/o/graph
gastr/o/enteric
laryng/o/spasm

7.
Underline the combining form in each of the following words:
phon/o/graph gastr/o/enter/ic
laryng/o/spasm

a word root plus
a vowel (a, e, i, o, u)

8.
The combining form in compound words is made up of a _____ plus a _____.

a combining form

9.
In tel/e/graph and tel/e/phone the root plus a vowel is necessary to make these compound words. What is this special form called?

all three

10.
Compound terms may be composed of which of the following?
a) two or more whole words
b) a whole word and a word root
c) a word root combining form and a word
Your answer? _____

combining form

11.
Two roots may join together but one of them will be in a special form called the _____.

12.
 What kind of words are these: microfilm and telecommunication?

 compound terms

 a combining form
 (a root plus a vowel)
 a whole word

13.
 Many medical terms are made of a combining form, a word root,
 and an ending. In the term *micr/o/scop/ic*,
 micr/o the combining form is _____;
 -ic the ending is _____;
 micr- the root is _____;
 Is there another word root? _____
 scop- What might it be? _____

14.
 There are two word roots in *micr/o/scop/ic*. The root *micr* is in the
 combining form because it is attached to a word that begins with a
 consonant. There is no need to add a vowel to the root *scop* because
 the ending *-ic* begins with a _____.
 vowel

15.
 Build a term from the combining form *electr/o*, the word root *stat*,
 and the ending *-ic*.
 _____ / _____ / _____ / _____
 electrostatic

16.
 In the word *hydroelectric*,
 word root electr is the _____;
 word hydro is the _____;
 ending -ic is the _____.

17.
 Endings change the basic meaning of a root or foundation word.
 Examine the following sentences:
 Joe's job was *blast-ing* the rocks.
 Tejo was *blast-ed* by the cannon.
 ending The meaning of *blast* is changed by its _____.

yes
the endings added to
the root changed its
meaning

18.
A *suffix* is a word unit or syllable added to the end of a word or root that alters its meaning and creates a new word. In the words *plant/er*, *plant/ed*, and *plant/ing*, are these endings also suffixes? ____ Explain your answer.

porter
one who carries

19.
You can change the meaning of a word (or root) by adding a suffix. The suffix *-er* means *one who*. The word *port* means *to carry*. Add the suffix to the word root, *write* the word, and *explain* what it means.

suffix

20.
When *-able* is added to the end of *read* it forms the new word *read-able*. *-Able* is a meaningful unit added to the end of a word, creating a new word. So *-able* is a _____.

im-, sup-,
trans-

21.
A *prefix* is a meaningful unit joined to the beginning of a word or root that creates a new term. In the words *im/plant*, *sup/plant*, and *trans/plant*, the prefixes are _____, _____, and _____.

prefix

22.
In the word *dis/please*, *dis-* is a meaningful unit that comes before the word and changes the meaning of *please*; *dis-* is a _____.

23.
Meaningful units that go in front of a root are called prefixes.
Meaningful units placed after a root are called suffixes.

Label the units in this word:

un- manage -able

_____ _____ _____

prefix *root* *suffix*

meaning
word

24.
A suffix or a prefix is called a meaningful unit because when it is attached or added to a root or word it changes the _____ of the _____.

our suggestion:
-itis is a word unit
added to the end of
a word altering its
meaning

25.
Explain why *-itis* in tendonitis is called a suffix.

OK, let's review what you've covered.

root

26.
The fundamental base from which meaningful terms grow or are formed is called the _____.

prefix

27.
A meaningful word or unit placed in front of a root or word is a _____.

suffix

28.
A syllable or word part joined to the end of a root or word and changes its meaning is a _____.

combining form

29.
When a vowel (a, e, i, o, u) is added to a word root, the word part resulting is called the _____.

compound word

30.
When two or more word roots combine to form a meaningful word, that word is called a _____.

List of Illustrations

(All illustrations created by Sakrantip Blazicek of Ocala, Florida)

Unit 1

- 1.1 Acromegaly
- 1.2 The Upper Digestive Tract (and Heart)
- 1.3 Electrocardiography (ECG)
- 1.4 Electrocardiogram

Unit 2

- 2.1 The Upper Respiratory Tract
- 2.2 The Head

Unit 3

- 3.1 Adduction/Abduction
- 3.2 The Great Cavities
- 3.3 Cocci Bacteria

Unit 4

- 4.1 The Male Reproductive Organs (Midline Section)
- 4.2 The Female Reproductive Organs (Midline Section)
- 4.3 Path of EGD Examination
- 4.4 Anomaly, Aneurysm, Hernia, Ptosis
- 4.5 Hernia, Ptosis, Anomaly, Aneurysm
- 4.6 The Female Urinary Tract
- 4.7 The Male Urinary Tract

Unit 5

- 5.1 The Oral Cavity
- 5.2 The Digestive Tract

Unit 6

- 6.1 Coronary Arteries—Nourishment to the Heart
- 6.2 The Cardiovascular System

Unit 8

- 8.1 Cyst
- 8.2 Polyp
- 8.3 Papilla
- 8.4 Papule
- 8.5 Excrecence
- 8.6 Abnormal Tissues
- 8.7 Dorsal/Ventral Surfaces
- 8.8 Midline of the Body
- 8.9 Regions of the Abdomen

Unit 9

- 9.1 The Female Reproductive Organs (Midline Section)
- 9.2 The Female Reproductive Organs (Anterior View)
- 9.3 Embryos at 5, 6, and 8 Weeks
- 9.4 Fetus in Utero, Beginning 9th Week
- 9.5 Female Pudenda

Unit 10

- 10.1 The Eye
- 10.2 The Lacrimal Apparatus
- 10.3 The Respiratory Tract (Cutaway Views)

1 Basic Word Roots and Common Suffixes

In Unit 1 you will work with basic word roots and a handful of common suffixes. (These are listed in the Mini-Glossary, below.) You'll examine many compound medical terms and discover meanings for all the parts. You'll practice adding various endings to roots and combining forms. By study and practice you'll make more than 30 meaningful medical terms.

Mini-Glossary

acr/o (*extremities*)

cardi/o (*heart*)

cyan/o (*blue*)

cyt/o (*cell*)

dermat/o, derm/o (*skin*)

duoden/o (*duodenum*)

electr/o (*electrical*)

-algia (*pain*)

-ectomy (*excision of*)

-itis (*inflammation of*)

-ologist (*one who studies, a specialist*)

eti/o (*cause*)

gastr/o (*stomach*)

gram/o (*record*)

leuk/o (*white*)

megal/o (*enlarged*)

path/o (*disease*)

-ology (*study of*)

-osis, -a, -y (*condition of, usually abnormal*)

-ostomy (*forming a new opening*)

-otomy (*incision into*)

-tome (*instrument that cuts*)

1.

Acr/o means extremities (arms, legs, and the head). To refer to one or more extremities physicians use words containing

_____ / _____.

acr/o

2 QUICK MEDICAL TERMINOLOGY

2.
Extremities are the parts of the body farthest from the center of the body. You could say these parts are located on the extreme ends of the main body. What parts are they?
arms, legs, and head _____.
3.
Extremities in the human body are also known as limbs. When referring to the arms or legs we use the word *acr/o*. What term could designate the head as an extremity?
acr, acr/o _____.
4.
When you read a term containing *acr* or *acr/o* (the combining form), it should make you think of _____.
extremities or limbs
5.
Each of the terms *acr/o/megaly*, *acr/o/cyan/osis*, and *acr/o/dermat/itis* has a common word root that refers to what parts of the body? _____, _____, and _____.
arms, legs, head
Write the combining form of the word root meaning extremities.
acr/o _____.
6.
Megal/o means enlarged or oversized. A word containing *megal/o* means the part or organ of the body is _____.
oversized, big, or enlarged
7.
The suffix *-y* denotes a condition, usually abnormal. *Acr/o/megal/y* means the patient's abnormal condition involves extremities that are _____.
enlargement of, oversized, or enlarged



Figure 1.1 Acromegaly

acr/o/megal/y
acromegaly
ak rō meg' a lē

8.
The illustration on page 2 shows a man with abnormally large hands and head. The term that describes this man's abnormal condition is _____ / _____ / _____ / _____.

acro/megaly

9.
Occasionally you may see a person with very large hands, feet, nose, and chin. The abnormal condition may be _____ / _____.

skin
inflammation of the
skin

10.
Here are two new suffixes:
-ologist means one who studies, a specialist
-itis means inflammation of (something)
dermat/o refers to the skin.
A dermat/ologist is a specialist in the field of medicine who specializes in treating disease of the _____.

Dermat/itis means _____.

Underline the word root in the following medical terms.

Write what each means.

Dermatitis
Dermatologist

Dermatitis means _____.

Dermatologist means _____.

Now, circle the suffix in each term.

acr/o/dermat/itis
acrodermatitis
ak rō der' ma tī' tis

11.
Acrodermatitis is a term meaning inflammation of the skin of the extremities. A person displaying red, inflamed hands may have a condition of _____ / _____ / _____ / _____.

acrodermatitis

12.
A busy homemaker may experience an inflammatory condition of her hands and lower arms. The physician may describe this abnormal condition as _____.

inflammation of
extremities
skin

13.
Remembering that the term acrodermatitis means inflammation of the skin of the extremities, explain the following:
-itis is a suffix that means _____,
acr/o refers to _____,
dermat is the root for _____.

4 QUICK MEDICAL TERMINOLOGY

14.
Cyan/o means blue or blueness. The suffix *-osis* denotes an abnormal condition. *Cyan/osis* means an abnormal condition of blueness.
- abnormal blueness of the extremities What do you think *acr/o/cyan/osis* means? _____
_____.
- cyan or cyan/o The part of the medical term that tells you the color blue is present is _____.
- osis The part of the medical term denoting that an abnormal condition exists is the suffix _____.
- osis 15.
To denote an abnormal condition, use the suffix _____.
- condition Acrocyanosis may be defined as the abnormal _____
extremities of blueness of the _____.
16.
Blueness of the extremities is usually due to a reduced amount of oxygen supply to the hands and feet. If the lungs don't take in enough oxygen or the heart doesn't pump enough good blood around the body, the patient's hands and feet may exhibit an abnormal condition described as
_____ / _____ / _____ / _____.
- acr/o/cyan/osis*
acrocyanosis
ak rō sī ə nō'sis
17.
When the lungs cannot move enough oxygen into the blood because of asthma, blueness of the extremities may result. This is another cause of _____.
- acrocyanosis
18.
Acrocyanosis means _____
_____.
- the condition of blueness of the extremities
19.
Dermat/osis denotes an abnormal skin condition. The suffix that means abnormal condition is _____.
- osis
20.
Osis is a suffix meaning (usually abnormal) condition. Now, build a term that means an abnormal condition of blueness:
_____ / _____.
- cyan/osis
cyanosis
sī ə nō'sis

dermat/osis dermatosis der ma tō'sis	21. Build a term meaning a skin condition (abnormal, of course): _____ / _____.
skin	22. The Greek word <i>tomos</i> means a piece cut off. From this word we have many words that refer to cutting: ectomy (cut out), otomy (cut into), -tome (an instrument that cuts). A dermatome is an instrument that cuts _____.
dermat/ome dermatome derm'ə tōm	23. A dermatome is a surgical instrument. When a physician wants a thin slice of a patient's skin for a skin graft, the doctor asks for a _____ / _____.
a condition of bluish discoloration of the skin	24. Dermat, dermat/o refer to the skin. Cyan/o/derm/a means _____ _____.
a disease or abnormal condition of the skin	Dermat/osis means _____ _____.
cyan/o/derm/a cyanoderma sī ə nō der'mä	25. Cyanoderma sometimes occurs when children swim too long in cold water. If a patient has a bluish discoloration of the skin, for any reason, the person may exhibit _____ / _____ / _____ / _____.
leuk or leuk/o	26. <i>Leuk/o</i> means white or abnormally white. In the term leuk/o/derm/a, the part that means white is _____.
a condition of white skin, or abnormally white skin	27. Leukoderma means _____ _____.
leuk/o/derm/a leukoderma lōō kō der' mä	28. Some people have much less color in their skin than is normal. Their skin is white. They may have _____ / _____ / _____ / _____.

6 QUICK MEDICAL TERMINOLOGY

29.
Cyt/o refers to a cell or cells. *-ology* is a suffix that means the study of.
- the study of cells What does *cyt/ology* mean? _____.
30.
There are several kinds of cells in blood. One kind is the *leuk/o/cyte*. A leukocyte is a _____.
- white blood cell
31.
There are several different kinds of cells in the bloodstream. When a physician wants to know how many “infection-fighting” white blood cells are circulating, the doctor asks the lab technician to count the _____ / _____ /cytes.
- leuk/o/cyt/e*
leukocyte
lōō' kō sīt
32.
Emia is a suffix meaning blood. When a person's blood contains far too many white blood cells, it may indicate a condition sometimes described as “blood cancer.” A term meaning literally *white blood* is _____ / _____.
- leuk/emia*
leukemia
lōō kē' mē ə
33.
In the term *acromegaly*, the combining form used for extremities is _____, the word root for oversized is _____, and the suffix meaning *condition of* is _____.
- acr/o*
megal
y
34.
Now try this. *Cardi/o* means heart. Another suffix meaning condition of is *-a*. What does *megal/o/cardi/a* mean? _____.
- a condition of oversized heart, or enlargement of the heart
35.
When any muscle exercises, it gets larger. If the heart muscle overexercises, an enlarged condition of the heart may occur. It is described as _____ / _____ / _____ / _____.
- megal/o/card/ia*
megalocardia
meg ə lō kār' dē ä

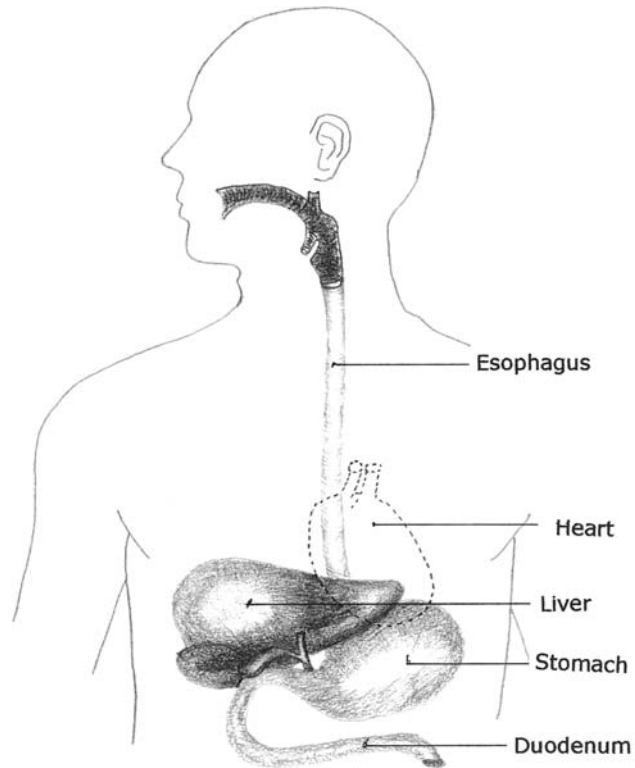


Figure 1.2 Upper Digestive Tract (and Heart)

The Digestive Tract begins with the oral cavity. The teeth pulverize ingested food and soften it. The action of the tongue moves the partly digested food into the *esophagus* by swallowing. Then strong muscular contractions move the food to the *stomach*. In the stomach the food is further processed mechanically and chemically. Then it passes into the highly coiled intestine. The first part of the intestine is called the *duodenum*.

Esophagus (esophag/o) Stomach (gastr/o)
 Duodenum (duoden/o) Heart (cardi/o)

36.

When the heart muscle doesn't receive an adequate supply of oxygen, the heart may beat more often. Inadequate oxygen makes the heart work harder and may lead to an enlarged heart described as

megalocardia or
 cardiomegaly

8 QUICK MEDICAL TERMINOLOGY

megal/o/gastr/ia
 megalogastria
 meg ə lō gas' trē ä

OR

gastromegaly
 gas' trō meg' a lē

37.

Try this one. *Gastr* is the word root for stomach. When the stomach enlarges so that it crowds other organs, an undesirable condition exists known as

_____ / _____ / _____ /ia.
enlarged stomach

OR

_____ / _____ / _____ /y.
stomach enlarged

oversized heart, or
 enlargement of the
 heart

(the same thing)

38.

Megalocardia means _____
 _____.

What does cardiomegaly mean? _____

inflammation of the
 heart

stomach

inflammation of the
 stomach

39.

The suffix *-itis* means inflammation of (something).

What does carditis mean? _____

Both gastr-, gastr/o mean _____.

Gastritis means _____
 _____.

40.

Here's a quick review. Using the suggested answers, write the meaning of each of the following terms.

SUGGESTED ANSWERS:

- | | |
|-----------------------|-----------------|
| abnormal condition of | heart |
| blueness | inflammation of |
| cell | skin |
| cutting instrument | stomach |
| enlarged, oversized | white |
| extremities | |

extremities
 blueness
 white
 stomach
 cell
 heart

acr/o _____
 cyan/o _____
 leuk/o _____
 gastr/o _____
 cyt/o _____
 cardi/o _____

enlarged, oversized	megal/o _____
skin	derm/o, dermat/o _____
abnormal condition of	-osis (-a, -y) _____
inflammation of	-itis _____
cutting instrument	-tome _____

41.

Now build a medical term for each of the following:

acro/megal/y	a condition of oversized extremities _____ / _____ / _____ extremities oversized
leuko/cyte	a white cell _____ / _____
dermat/itis	inflammation of the skin _____ / _____
megalo/cardi/a OR cardio/megal/y	a condition of enlarged heart _____ / _____ / _____

42.

Let's have a change of pace here. Professional health workers use some special words to talk about illness and sick people. Here are just a few you'll find very useful. Read each definition. Then underline a key word or words to help you remember the meaning of the term.

It's up to you, of course, but here are some key words.

sickness, illness *Disease* is a condition in which bodily health is impaired. It means sickness or illness.

exhibition, display, evidence *Manifestation* is proof of impaired bodily health. It's a display, exhibition, or evidence of disease.

changes (structural and functional) *Pathology* is the scientific study of changes in the human body (structural and functional) produced by disease.

causes (ētēology) *Etiology* is the scientific study of causes of disease.

You may refer to the definitions if you need help answering the next few frames.

The cause of the patient's disease is not yet known (and may remain unknown).

43.

If a physician says that a patient's disease is of unknown etiology, what would that mean to you? _____

_____.

10 QUICK MEDICAL TERMINOLOGY

- sickness, illness 44. Another word for disease is _____.
- evidence, or exhibition 45. Manifestation is a display, or _____, of disease.
- causes 46. Etiology is the scientific study of _____ of disease.
- structural 47. Pathology is the scientific study of _____ and functional _____ changes in the body produced by disease _____.
48. Select the best term for each definition. Write your choice in the space provided.
- disease pathology etiology manifestation disease
Another term for illness or sickness is _____.
- manifestation Evidence, or proof, of disease is _____.
- etiology The study of causes of disease is _____.
- pathology The scientific study of changes in the body produced by disease is _____.
- path/ologist 49. The suffix *-ology* means the study of, the suffix *-ologist* means one pathologist who studies (and becomes an expert). One who studies structural path ol' ə jist and functional changes in the body produced by disease is a _____ / _____.
- cardi/ologist 50. Some physicians specialize in heart disease. The specialist cardiologist who determines that a heart is deformed is a _____ / _____.
heart specialist
kär dē ol' ə jist

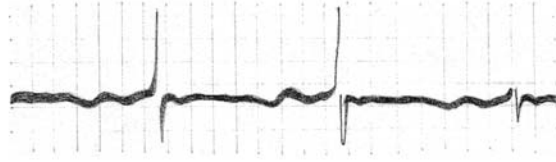


Figure 1.3 Electrocardiography (ECG)

Electrocardiography is a method of recording electrical currents traversing the heart muscle just prior to each heart beat. An Electrocardiogram is a graphic record of heart action currents that are obtained by electrocardiography.

cardiologist

51.

A heart doctor who reads an electr/o/cardi/o/gram (a record of electrical impulses generated by the heart) is a specialist in heart problems or _____ / _____.

a record of electrical waves given off by the heart (or equivalent)

52.

Complete the meaning of electr/o/cardi/o/gram:

Gram means a record or recording, electr/o means _____

heart

cardi/o means _____

electr/o/cardi/o/gram
 electrocardiogram
 ē lek' trō kär' dē ə
 gram

53.

The electr/o/cardi/o/gram is a record obtained by electr/o/cardi/o/graph/y. A technician can learn electrocardiography, but it takes a cardiologist to read the

_____ / _____ / _____ / _____ / _____
 electrical / _____ / heart / _____ / record

54.
A physician specialist can look at a report that looks like this

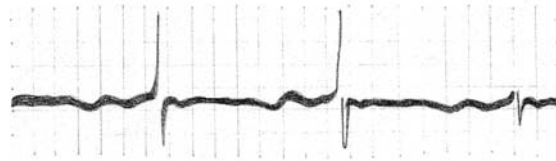


Figure 1.4 Electrocardiogram (ECG)

cardiologist
electrocardiogram

and learn something about a patient's heart function. This specialist is probably a _____ and can read an _____ (ECG).

cardi/algia
cardialgia
kär dē al' jē a (There is no need to add a vowel to the root cardi because -algia begins with a vowel.)

55.
The suffix *-algia* means pain. Form a word that means heart pain:
_____ / _____
heart pain

cardialgia

56.
When a patient complains of pain in the heart, the symptom is known medically as _____.

stomach
-algia

57.
Gastralgia means pain in the stomach.
Gastr is the root for _____.
The suffix for pain is _____.

stomach
to cut out, excise, or remove surgically

58.
Gastr/ectomy means excision (removal) of all or part of the stomach. *Gastr* means _____.
The suffix *-ectomy* means _____.

gastr/ectomy
gastrectomy
gas trek' tō mē

59.
When a patient's stomach ulcer perforates, the surgeon may need to remove part of the stomach. The medical term for the procedure is _____ / _____.
(stomach) (excision of)

gastrectomy

60.
Cancer of the stomach may require a surgeon to remove all or part of the patient's stomach. This procedure is a _____.

gastr/itis
gastritis
gas trī' tis

61.
Form a word that means inflammation of the stomach.
_____ / _____.

duoden/um
duodenum
dōō ōd' nēm (or
dōō ō dē' nēm)

62.
The stomach empties its contents into the first section of the intestine, called the duodenum. *Duoden* is the word root for _____.

gastr

What is the root for stomach? _____.

stomach and
duodenum

63.
The suffix *-ostomy* means a procedure to form a new opening. Gastr/o/duoden/ostomy means forming a new opening between the _____ and _____.

gastr/o/duoden/
ostomy
gastroduodenostomy
gas' trō dōō ō de nos'
tō mē

64.
A surgeon may need to remove a portion of a diseased stomach. If the natural connection is removed, then the surgeon must form a new opening between the stomach and duodenum. This procedure is called _____ / _____ / _____ / _____.

a surgical procedure to
form a new opening
between the stomach
and duodenum

65.
When an abnormal condition exists between the stomach and the duodenum, a surgeon may need to perform a gastroduodenostomy, which means _____

74.

Let's review what you've covered. Using the suggested answers, write the meaning of each of the following terms.

SUGGESTED ANSWERS:

blueness	duodenum
cell	electrical
cause(s)	enlarged, oversized
changes due to disease	record of

duodenum
changes due to disease
record of
cell
electric
cause
enlarged, oversized
blueness

duoden/o _____
path/o _____
gram/o _____
cyt/o _____
electr/o _____
eti/o _____
megal/o _____
cyan/o _____

75.

Now try it with the suffixes you just learned.

SUGGESTED ANSWERS:

(abnormal) condition of	incision into
cutting instrument	inflammation of
form a new opening	of, or pertaining to
one who studies, specializes in	pain

of, or pertaining to
inflammation of
(abnormal) condition
form a new opening
cutting instrument
incision into
pain
one who studies

-al _____
-itis _____
-osis, -a, -y _____
-ostomy _____
-tome _____
-otomy _____
-algia _____
-ologist _____

76.

Now build some new words.

cyan/osis

A condition of blueness is _____ / _____.
blueness condition

path/ologist

One who studies bodily changes produced by disease is a
_____/_____.
changes in the body one who studies

duoden/ostomy

A surgical procedure that forms a new opening in the duodenum is
a _____ / _____.
duodenum form a new opening

eti/o/logic/al

A term meaning of, or pertaining to, the study of causes of disease
is _____ / _____ / _____ / _____.
causes of disease the study of pertaining to

77.

While working through Unit 1, you formed the following new medical terms. Read them one at a time and pronounce each aloud several times until you can articulate each term clearly and correctly. If a friend pronounces each term for you, could you spell it correctly? Try it.

acrocyanosis (ak rō sī ə nō' sis)

acrodermatitis

(ak rō der' ma tī' tis)

acromegaly (ak rō meg' a lē)

cardialgia (kār dē al' jē a)

cardiologist (kār dē ol' ə jist)

carditis (kār dī' tis)

cyanoderma (sī ə nō der' mä)

cyanosis (sī ə nō' sis)

cytology (sī tol' ə jē)

gastrectomy

(gas trek' tō mē)

gastritis (gas trī' tis)

gastroduodenostomy

(gas' trō dōō ō de nos' tō mē)

leukemia (lōō kē' mē ə)

leukocyte (lōō' kō sīt)

leukoderma (lōō kō der' mä)

dermatologist

(der ma tol' ə jist)

dermatome (derm' ə tōm)

dermatosis (der ma tō' sis)

disease (diz ēz')

duodenal (dōō ō dē' nəl)

electrocardiogram

(ē lek' trō kār' dē ə gram)

etiological (ē' tē ō loj' i kəl)

gastralgia (gas tral' jē a)

manifestation

(man' ə fes tā' shən)

megalocardia

(meg ə lō kār' dē ä)

megalogastria

(meg ə lō gas' trē ä)

pathologist (path ol' ə jist)

pathology (path ol' ə jē)

Before going on to Unit 2, take the Unit 1 Self-Test that follows.

Unit 1 Self-Test

Part 1

From the list of definitions on the right, select the correct meaning for each of the terms in the left-hand column. Write the letter in the space provided.

- | | |
|------------------------------|--|
| _____ 1. Megalocardia | a. Study of, or pertaining to, causes (of disease) |
| _____ 2. Cardiology | b. A specialist in the field of skin diseases |
| _____ 3. Duodenostomy | c. A condition of blueness of the extremities |
| _____ 4. Leukemia | d. Enlargement of the heart |
| _____ 5. Dermatologist | e. A surgical procedure forming a new opening in the duodenum |
| _____ 6. Electrocardiography | f. Display, evidence of disease |
| _____ 7. Acromegaly | g. One who specializes in the study of structural and functional changes in the body |
| _____ 8. Gastritis | h. Pain in the stomach |
| _____ 9. Dermatome | i. Inflammation of the stomach |
| _____ 10. Manifestation | j. Recordings of electrical waves of the heart |
| _____ 11. Gastroduodenostomy | k. An abnormal condition of enlarged extremities |
| _____ 12. Etiology | l. A surgical instrument for cutting skin |
| _____ 13. Acrocyanosis | m. A surgical operation to make a new opening between the stomach and duodenum |
| _____ 14. Pathologist | n. The study of disease of the heart |
| _____ 15. Gastralgia | o. An abnormal condition of too many white blood cells |

Part 2

Write a medical term for each of the following:

1. Impaired bodily health _____
2. Bluish discoloration of the skin _____
3. White cell _____
4. Oversized or enlarged stomach _____
5. Evidence of disease _____
6. The study of causes of an illness _____
7. Excision or removal of the stomach _____
8. Pertaining to the duodenum _____
9. Generalized condition of blueness _____
10. Heart pain _____
11. Inflammation of the heart _____
12. An abnormal condition of white skin _____
13. Inflammation of the skin of the extremities _____
14. Study of cell(s) _____
15. An abnormal condition of the skin _____

ANSWERS

Part 1

1. d
2. n
3. e
4. o
5. b
6. j
7. k
8. i
9. l
10. f

Part 2

1. disease
2. cyanoderma
3. leukocyte
4. megalogastria
5. manifestation
6. etiology
7. gastrectomy
8. duodenal
9. cyanosis
10. cardialgia

- | | |
|-------|--------------------|
| 11. m | 11. carditis |
| 12. a | 12. leukoderma |
| 13. c | 13. acrodermatitis |
| 14. g | 14. cytology |
| 15. h | 15. dermatosis |

2 More Word Roots, Suffixes, and Prefixes

In Unit 2 you will cover more sophisticated terms, word roots, and suffixes, and you'll begin using prefixes. Teaching sequences in this unit aim to expand your learning by combining words you covered in Unit 1 with some new ones. We introduced new ideas as well as useful medical terms to improve retention and make your practice exercises interesting. Now, let's get started.

Mini-Glossary

aden/o (*gland*)

arthr/o (*joint*)

carcin/o (*malignancy*)

cele/o, o/cele (*hernia*)

cephal/o (*head*)

chondr/o (*cartilage*)

cost/o (*ribs*)

dent/o (*tooth*)

emes/is (*vomiting*)

hist/o (*tissue*)

laryng/o (*larynx*)

lip/o (*fat*)

malac/o (*soft*)

morph/o (*structure of*)

muc/o (*mucus*)

onc/o (*tumor*)

ost/o, oste/o (*bone*)

plast/o (*repair*)

trach/e (*trachea*)

troph/o (*development*)

en-, endo- (*in, inside, within*)

ex-, ex/o- (*outside, out*)

hyper- (*excessive*)

hypo- (*under*)

inter- (*between*)

-al, -ar, -ic (*of, or pertaining to*)

-oid (*resembling*)

-oma (*tumor*)

-ism (*medical condition, disease*)

Before you begin Unit 2, complete the Review Sheet for Unit 1. It will help you get a running start as you continue your studying. You'll find review sheets beginning on page 247.

1. Examine the terms hyper/trophy, hyper/emia, and hyper/emesis. *Hyper-* means excessive, more than normal amount. *Hyper-* placed in front of trophy, emia, and emesis changes the meaning of the terms. Therefore, hyper- is a _____ (prefix/suffix?).
 prefix

2. Hyper/thyroid/ism is a medical condition of the thyroid gland resulting in excessive thyroid gland activity. The prefix expressing higher than normal activity of the thyroid gland is _____.
 hyper

3. The suffix *-ism* indicates there is a medical condition involving some specified thing or body part. In the case of hyper/thyroid/ism the medical condition involves what body part? _____.
 thyroid gland

4. Here's a suggestion:
 Hyperthyroidism means the patient has a medical condition resulting from excessive activity of the thyroid gland.
 Hyper- means something is excessive. Thyroid tells you what part is involved. The suffix *-ism* means there is a resulting medical condition. In your words, explain the meaning of the term hyper/thyroid/ism.

5. *Emesis* is a word that means vomiting. A word that means excessive vomiting is _____ / _____.
 Gallbladder attacks can cause excessive vomiting. This, too, is called _____.
 hyper/emesis
 hyperemesis
 hī per em' ə sis
 hyperemesis

6. Hyper/trophy means overdevelopment; *troph/o* comes from the Greek word for nourishment. Note the connection between nourishment and development. Overdevelopment is called _____ / _____ /y.

 a condition of excessive development
 hyper/troph/y
 hypertrophy
 hī per' trō fē
 hypertrophy
 Muscles also can overdevelop or _____.
 (a verb form)

7.
hypertrophy Many organs can overdevelop. If the heart overdevelops, the condition is called cardiac _____.
8.
hypo- The prefix *hypo-* is just the opposite of *hyper-*. The prefix for under or less than normal is _____.
9.
skin Derm/o refers to the _____. The suffix *-ic* means of, or pertaining to. Hypo/derm/ic means pertaining to under the _____.
skin
10.
hypo/derm/ic A hypodermic needle is short because it goes just under the skin. A hypodermic shot given superficially is administered with a _____ needle.
hī pō der' mik _____ / _____ / _____
under skin pertaining to
11.
aden/itis *Aden/o* is used in words that refer to glands. Build a word that adenitis means inflammation of a gland:
ad ə nī' tis _____ / _____
gland inflammation of
12.
aden/ectomy Since ectomy means excision (or surgical removal of), the word for adenectomy surgical removal of a gland is
ad ə nek' tō mē _____ / _____
gland surgical removal
13.
adenectomy If a gland is like a tumor, part or all of it may be excised. Excision of a gland is _____.
14.
aden/oma The suffix *-oma* means tumor. Form a word that means tumor of a adenoma gland:
ad ə nō' mā _____ / _____
15.
surgical removal, or excision, of the thyroid gland Try this. Sometimes the thyroid gland develops a tumor. A patient's history might read, ". . . because of the presence of a thyroid adenoma, thyroidectomy is indicated." What is a thyroid/ectomy?

16.

The suffixes *-ic*, *-al*, and *-ar* mean of, or pertaining to, the attached word.

spleen

A splenic tumor is a tumor of the _____.

tonsil

A tonsillar tumor is a tumor pertaining to the _____.

in the duodenum

Where would you expect to find a duodenal tumor? _____
_____.

17.

Carcin/o is the root for cancer. The suffix *-oma* means tumor. A carcinoma is a _____.

cancerous tumor

18.

A carcinoma may occur in almost any part of the body. A cancerous tumor of the spleen is called _____ carcinoma.

splenic

carcinoma

Cancer of the tonsil is tonsillar _____.

of, or pertaining to

The suffixes *-ic*, *-ar*, and *-al* mean _____.

19.

An adenoma is a glandular tumor; *-oma* means _____.

tumor

A lip/oma is a tumor of fatty tissue.

fat, fatty tissue

Lip/o is the combining form for _____.

lip/oma

20.

A fatty tumor is called a _____ / _____.

lipoma

li po' ma

21.

Lipoma is a fatty tumor; *-oid* is a suffix meaning like or resembling. Using the word root for fatty tissue, build a term that means fatlike, or resembling fat: _____ / _____.

lip/oid

lipoid

lip' oid

22.

The word lipoid is used in chemistry and pathology. It describes a substance that looks like fat, dissolves like fat, but is not fat. Cholesterol is an alcohol that resembles fat; therefore, cholesterol is a _____ / _____ substance.

lip/oid

fat

like

muc/oid
 mucoid
 myōō' koid

23. *Muc/oid* means resembling mucus. There is a substance in connective tissue that resembles mucus. This is called a _____ / _____ substance.

resembling mucus

24. There is a protein in the body that is said to be mucoid in nature. Mucoid means _____.

mucoid
 lipoid

25. A substance that resembles mucus is best described as _____.

A substance resembling fatty tissue is called a _____ substance.

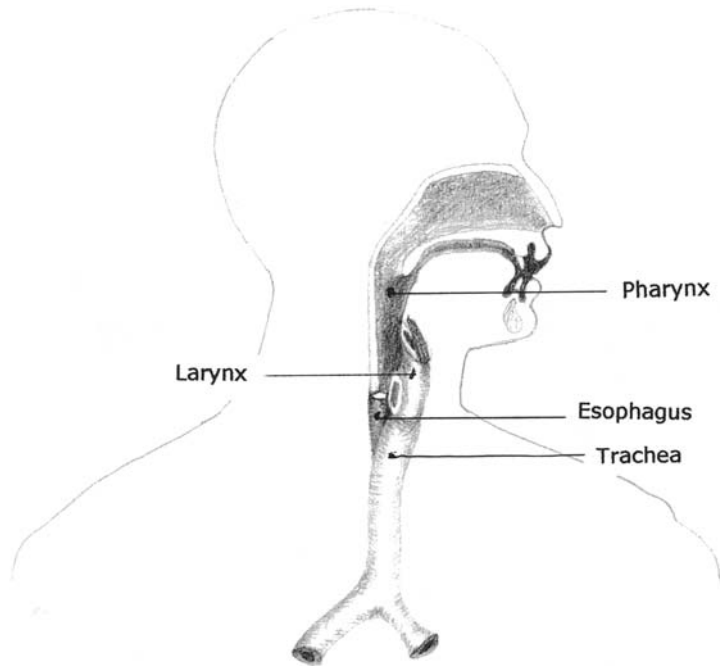


Figure 2.1 The Upper Respiratory Tract

The Respiratory Tract conducts oxygen-rich air to the lungs where oxygen can be readily absorbed by the blood. It removes carbon dioxide-laden air to the external atmosphere. The *pharynx* filters

and warms the air we breathe and conducts it into the *larynx*. The larynx protects against inadvertent inhaling of solid matter and contains the vocal cords, the mechanism of sound production. Leading from the larynx is the windpipe, more correctly known as the *trachea*.

Pharynx (pharyng/o) Trachea (trache/o)
Larynx (laryng/o)

larynx

26.
The larynx or *voice box* contains the vocal cords. *Laryng/o* is the combining form for building words referring to the voice box, also called the _____.

laryng/itis
laryngitis
lair an jī' tis

Build a term meaning inflammation of the larynx.
_____ / _____.

inflammation of the
larynx

27.
After a bad cold, a patient may develop laryngitis, which means _____.

(kō los' tō mē)
a new (permanent)
opening into the
colon

28.
Now, you'll add a few new suffixes to your growing vocabulary. An obstruction of the colon may require a new opening into the colon that will be *permanent*.

Col, *col/o* refer to the colon, or large bowel. The suffix *-ostomy* means a new (permanent) opening into.
Col/ostomy means _____.

-ostomy

29.
The suffix for a new (permanent) opening is _____.

(trā kē ot' ō mē)
an incision into, or
temporary opening
into, the trachea, or
windpipe

30.
Take a look at Illustration 2.1. An obstruction of the windpipe makes breathing very difficult, or even impossible. In an emergency, a physician may make an incision into the windpipe to permit a free flow of air to the patient's lungs.

Trache, *trache/o* refer to the trachea, or *windpipe*. The suffix *-otomy* means incision into, or a *temporary* opening.
Trache/otomy means _____.

31.
The suffix meaning a temporary opening, or incision into, is _____.

-otomy

32.
Which suffix would you use to indicate creation of a new (permanent) opening? _____.

-ostomy

Which suffix means making an incision into, or creating a temporary opening? _____.

-otomy

33.
Colostomy means _____.

creation of a new (permanent) opening into the colon

Tracheotomy means _____.

incision into, or temporary opening into, the trachea

34.
Time for a quick review. Using the suggested answers, write a meaning for each of the following word roots.

SUGGESTED ANSWERS:

- | | |
|-------------------|--------|
| fat, fatty | mucus |
| larynx | skin |
| cancer, malignant | spleen |

fat, fatty	lip/o _____
spleen	splen/o _____
skin	derm/o _____
larynx	laryng/o _____
mucus	muc/o _____
cancer, malignant	carcin/o _____

35.
Now do the same with the following suffixes.

SUGGESTED ANSWERS:

- | | |
|----------------------------------|--------------------------------|
| incision into, temporary opening | a new (permanent) opening into |
| like, or resembling | development |
| of or pertaining to | vomiting |
| tumor | excision of |

development _____

excision of _____

-trophy _____

-ectomy _____

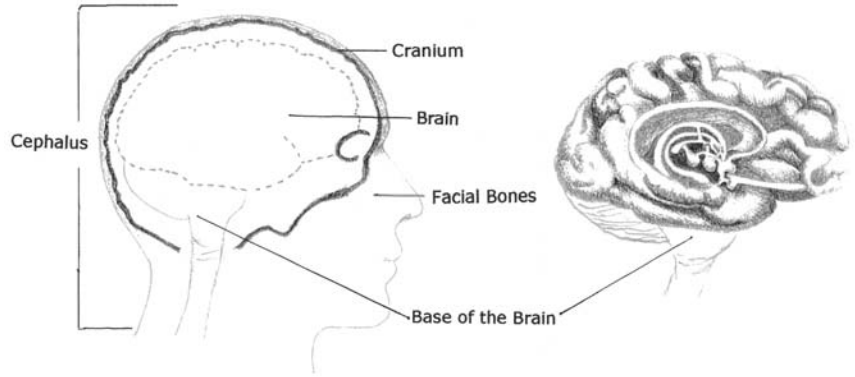


Figure 2.2 The Head

Cephalus is a term that refers to the entire head. It is composed of both the cranium and facial bones. The *cranium* (or skull) is a bony vault protecting the contents of the head. The face is the front portion of the head and includes the eyes, nose, mouth, forehead, cheeks, and chin. The cranium encloses the *cerebrum*, also known as the brain. The brain is the center of sensory awareness and movement, emotions, rational thought and behavior, foresight and planning, memory, speech, language, and interpretation of language.

Cephalus, head including skull and facial bones (cephal/o)

Cranium (crani/o)

Cerebrum (cerebr/o)

Use the illustration of the head to help you with the frames that follow.

39.

Welcome back. At this stage of word-building, students sometimes find they have one big headache. Both ceph/algia and cephal/algia mean pain in the head. The combining form and root for head are _____ and _____.

cephal/o
ceph

40.

To indicate pain we use -algia. Any headache may be called _____ or _____
 head / pain
 _____ / _____
 head / ache

ceph/algia or
cephal/algia
cephalgia
(sef ə lal' jē ä)

49. Refer to Frame 44 for help. Select a prefix meaning out, or completely outside of: _____.
en-, endo- or ex-, exo-

50. *Exo/genous* means originating completely outside of an organ or part. *Genous* takes its meaning from a Latin word meaning to produce or originate.

exo- What part of the term means completely outside of? _____.
 exo/genous Something originating completely outside of an organism, cell, or
 ex' oj' ə nus organ is called _____ / _____.
outside produced or originating

endo/genous Now build a word that indicates something is produced or
 en' doj' ə nus originates from within a cell or organism:
 _____ / _____.
within produced or originating

51. Try these. Here are some common English words often used in the medical world. Write what each means.

hale (breathe) cise (cut) spire (breathe)

breathe out exhale means _____.

cut out excise means _____.

breathe out (it also means to die or breathe out for the last time) expire means _____.

52. Write two forms of a prefix for each of the following.

en-, endo- in, inside of, within _____, _____.

ex-, exo- out, completely outside of _____, _____.

53. The Greek word for hernia is *kele*. From this we derive the combining forms *cele/o* or *o/cele*. Encephal/o/cele is a word meaning herniation of _____ tissue.

brain

encephal/o/cele
encephalocele
en səf' a lō sēl

54.
Any hernia is a protrusion of a part from its natural cavity. Herniation is expressed by cele. A protrusion of brain tissue from its natural cavity is an _____ / _____ / _____.
brain (inside the head) hernia

encephalocele

55.
Increased fluid inside the head sometimes causes herniation at the base of the brain. Herniation of the brain in medical language is called an _____.

a condition of softened brain tissue

56.
Malac/ia is a word meaning soft, or softened, tissue. Encephal/o/malac/ia means _____.

encephal/o/malac/ia
encephalomalacia
en səf' a lō mā la' zhə

57.
Malac/o is the combining form for soft, or softened. The term meaning softened brain tissue is _____ / _____ / _____ / _____.
brain tissue softened a condition of

encephalomalacia

58.
An accident causing brain injury could result in softened brain tissue, called _____.

oste/itis
osteitis
os tē ī' tis

59.
Oste is the root referring to bone. A word meaning inflammation of the bone is _____ / _____.

a condition of softened bone tissue

60.
What do you think oste/o/malac/ia means? _____.

oste/o/malac/ia
osteomalacia
os' tē ō mā lā' zhə

61.
Insufficient calcium in a young person's diet may lead to gradual softening and bending of bones. This disorder is called _____ / _____ / _____ / _____.
bone softened condition

- osteomalacia 62. A disorder of the parathyroid gland can cause calcium to be withdrawn from bones. The resulting condition may be called _____.
- oste/oma
osteoma
os tē ō' mā 63. A hard outgrowth on any bone could be a bone tumor. In medical terms, it would be referred to as an _____ / _____.
- a tumor inside (the center canal of the bone) What does end/oste/oma mean? _____
_____.
- surgical repair of a joint(s) 64. *Arthr/o* refers to joints; *plast/y* means surgical repair of. What does *arthr/o/plast/y* mean? _____
_____.
- arthr/o/plast/y
arthroplasty
arth' rō plas' tē 65. Think of a plastic surgeon building a new nose or doing a face lift. These are surgical repairs or restoration. When a joint has lost its ability to move, movement can sometimes be restored by an _____ / _____ / _____ / _____.
joint repair or restore (process/procedure)
- arthro/plasty 66. If a child is born without a joint, sometimes one can be formed by a surgical procedure called _____ / _____.
- arthr/itis
arthritis
ärth rī' tis 67. Form a word that means inflammation of a joint:
_____ / _____.
joint inflammation of
- arthr/otomy
arthrotomy
ärth rot' ō mē 68. Now form a word that means incision into a joint:
_____ / _____.
joint temporary opening

69.
 The word oste/o/chondr/itis means inflammation of the bone and cartilage. The word root for cartilage must be
 chondr _____.

bone Oste, oste/o mean _____.

70.
 Analyze oste/o/chondr/itis:
 oste/o combining form for bone is _____
 chondr word root for cartilage is _____
 -itis suffix for inflammation is _____

oste/o/chondr/itis
 osteochondritis
 os' tē ō kon drī' tis
 71.
 Now put all the parts together:
 _____ / _____ / _____ / _____.
 bone cartilage inflammation of

inflammation of bone
 and cartilage
 What does osteochondritis mean? _____
 _____.

72.
 excision of cartilage
 Chondr/ectomy means _____
 _____.

73.
 inter-
 of or pertaining to
 Cost/al means pertaining to the ribs. Inter/cost/al means pertaining to between the ribs. The prefix for between is _____.
 The suffix -al means _____.

74.
 inter/cost/al
 intercostal
 in ter kos' t'l
 There are short strong muscles between the ribs. These muscles move the ribs during breathing and are called
 _____ / _____ / _____ muscles.
 between ribs

75.
 intercostal
 One set of between-the-ribs muscles enlarges the rib cage when breathing in. When exhaling, the rib cage is made smaller by another set of _____ muscles.
 (between-the-ribs)

teeth teeth	76. A <i>dent</i> /ist takes care of _____. A <i>dent</i> /ifrice is used for cleaning _____.
spaces between the teeth	Interdental spaces means _____ _____.
dent/algia dentalgia den tal' jē a	77. Try making a few new words. Pain in the teeth, or a toothache, is called _____ / _____.
dent/oid dentoid den' toid	A word that means tooth-shaped or resembling a tooth is _____ / _____.
(If you're not sure, use your dictionary.)	78. Try these. Pathogenic means something that produces disease. What is a pathogenic organism? _____ What does pathology mean? _____ Therefore, pathological means _____ _____.
Excessive vomiting is evidence of a diseased condition.	79. Explain each of the following statements in simple language. Hyperemesis is a manifestation of a pathological condition. _____ _____
A graphic representation of brain activity (EEG) is necessary to determine the cause of brain disease (or something similar in your words).	Electroencephalography (EEG) is often the first step toward a diagnosis of encephalopathy. _____ _____ _____

encephalo/cele	herniation of the brain _____ / _____. inside the head hernia of
dent/oid	resembling teeth _____ / _____. teeth resembling
ceph/algia	headache _____ / _____. head pain
arthr/otomy	incision into a joint _____ / _____. joint temporary opening

Here are our suggestions:
tumors, branch of medicine
structure of an organ, part
microscopic tissues of a part
changes caused by disease

84.
 You just learned the suffix -oma, meaning tumor. Now, here are three more very useful terms often used in discussion of tumors. Read each definition. Then underline a key word or two to help you remember what the term means.
Oncology is the branch of medicine dealing with tumors.
Morphology is the biological science dealing with the structure of an organ or part of the body.
Histology is the study of the microscopic tissues that make up a part or a structure.
Pathology is the study of changes in structure and function caused by disease.

tumors
 tissues (of a part, organ)
 changes (due to disease)
 structure (of an organ, part)

85.
 Complete each of the following statements. Look back at the definition if necessary.
 Onc/o refers to _____.
 Hist/o refers to _____.
 Path/o refers to _____.
 Morph/o refers to _____.

structure
 tissues
 tumors
 changes

86.
 Complete each definition.
 Morphology is the study of the _____ of an organ or part.
 Histology is the study of microscopic _____ making up a part or structure.
 Oncology is the study of _____.
 Pathology is the study of _____ caused by disease.

87.

Complete each of the following definitions:

histologist One who studies the tissue *structure* under a microscope is a _____.

oncologist A specialist in the care and treatment of patients with *tumors* is an _____.

morphologist One who studies the *structure* of living organisms is a _____.

pathologist A specialist who studies *changes* in structure and function resulting from disease is a _____.

88.

Here are more than 30 medical terms you worked with in Unit 2. Read each one. Say it aloud several times and explain what it means *aloud* (so your ears and brain can hear what you learned).

adenectomy (ad ə nek' tō mē)

adenitis (ad ə nī' tis)

adenoma (ad ə nō' mā)

arthroplasty (ärth' rō plas' tē)

arthrotomy (ärth rot' ō mē)

carcinoma (kär sin ō' mā)

cephalgia (sef ə lal' jē ä)

cephalic (se fal' ik)

chondritis (kon drī' tis)

colostomy (kō los' tō mē)

dentalgia (den tal' jē ä)

encephalitis (en sef ə lī' tis)

encephalocele (en sef' ə lō sēl)

encephaloma (en sef' ə lō' mā)

oncology (on kol' ō jē)

osteitis (os tē ī' tis)

osteomalacia (os' tē ō mā lā' zhə)

pathologist (path ol' ō jist)

endosteoma

(en dos tē ō' mā)

exogenous

(eks oj' ə nus)

histology (his tol' ō jē)

hyperemesis (hī per em' ə sis)

hypertrophy (hī per' tro fē)

hypodermic (hī pō der' mik)

intercostal (in ter kos' t'l)

laryngitis (lair an jī' tis)

lipoid (lip' oid)

lipoma (lī pō' mā)

morphology (mor fäl' ō jē)

mucoid (myōō' koid)

thyroidectomy

(thī roy dek' tō mē)

tracheotomy (trā kē ot' ō mē)

Take a short break and then test yourself with the Unit 2 Self-Test, next page.

Unit 2 Self-Test**Part 1**

From the list on the right, select the correct meaning for each of the following terms. Write the letters in the space provided.

- | | |
|-------------------------|--|
| _____ 1. Osteomalacia | a. Overdevelopment |
| _____ 2. Intercostal | b. Study of microscopic tissues |
| _____ 3. Emesis | c. Surgical removal of cartilage |
| _____ 4. Adenoma | d. Between the ribs |
| _____ 5. Laryngotomy | e. Surgical repair of a joint |
| _____ 6. Lipoid | f. Softening of bone tissue |
| _____ 7. Cephalalgia | g. Herniation of brain tissue |
| _____ 8. Morphology | h. Tumor of glandular tissue |
| _____ 9. Carcinogenic | i. Headache |
| _____ 10. Encephalocele | j. Incision into the larynx |
| _____ 11. Arthroplasty | k. Pertaining to producing cancer |
| _____ 12. Oncologist | l. Resembling fat |
| _____ 13. Hypertrophy | m. Vomiting, to vomit |
| _____ 14. Chondrectomy | n. Medical specialist dealing with tumors |
| _____ 15. Histology | o. The science of studying the structure of an organ |

Part 2

Complete each of the medical terms on the right with the appropriate prefix and/or suffix:

- | | |
|--|---------------------|
| 1. Surgical removal of the thyroid gland | Thyroid _____ |
| 2. Inflammation of glandular tissue | Aden _____ |
| 3. Malignant tumor | Carcin _____ |
| 4. Excessive vomiting | _____ emesis |
| 5. Resembling mucus | Muc _____ |
| 6. Tumor specialist | Onc _____ |
| 7. Making a new permanent opening into the colon | Col _____ |
| 8. Inflammation inside the head | _____ cephal _____ |
| 9. Tumor of fat tissue | _____ oma |
| 10. Pertaining to the teeth | Dent _____ |
| 11. To breathe out | _____ hale |
| 12. Pertaining to between the ribs | _____ cost _____ |
| 13. A tumor inside the bone canal | _____ oste _____ |
| 14. Medical condition resulting from an <i>underactive</i> thyroid | _____ thyroid _____ |
| 15. Originating or produced completely outside of an organ or organism | _____ genous |

ANSWERS

Part 1

1. f.
2. d.
3. m.
4. h.
5. j.
6. l.
7. i.
8. o.
9. k.

Part 2

1. Thyroidectomy
2. Adenitis
3. Carcinoma
4. Hyperemesis
5. Muroid
6. Oncologist
7. Colostomy
8. Encephalitis
9. Lipoma

- | | |
|--------|--------------------|
| 10. g. | 10. Dental |
| 11. e. | 11. Exhale |
| 12. n. | 12. Intercostal |
| 13. a. | 13. Endosteoma |
| 14. c. | 14. Hypothyroidism |
| 15. b. | 15. Exogenous |

3 Basic Anatomical Terms and Abnormal Conditions

In Unit 3 you will put together at least 50 new medical terms. You'll work with some new prefixes and suffixes and practice using those you covered in earlier units. Although this program doesn't attempt to teach anatomy of the human body, the language of medicine is all about the human body and what affects its parts. So, in this unit you'll bring anatomy and medicine together by focusing on a couple of anatomical areas and some abnormal conditions that affect them.

Mini-Glossary

abdomin/o (*abdomen*)

cephal/o (*head*)

chol/e (*bile, gall*)

cocc/i (*coccus*)

crani/o (*cranium, skull*)

cyst/o (*bladder, sac*)

diplo (*double*)

hydro (*water*)

lith/o (*stone, calculus*)

metr/o, meter (*measure*)

ot/o (*ear*)

pelv/i (*pelvis*)

phob/ia (*fear*)

py/o (*pus*)

rhin/o (*nose*)

staphyl/o (*grape*)

strept/o (*chain*)

therap/o (*treatment*)

thorac/o (*thorax*)

ab- (*away from*)

ad- (*toward*)

-ar (*pertaining to*)

-centesis (*puncture of a cavity*)

-genesis, gen/o (*produce, originate*)

-meter (*measuring instrument*)

-orrhea (*flow, discharge*)

Before you begin Unit 3, take the time to complete the Review Sheet for Unit 2. It will refresh your memory of the terms and word parts you studied. It may surprise you to find out how much you've learned. Try it (page 249).

1.

away from The prefix *ab-* means from or away from.
Abnormal means _____ normal.
2.

from or away from The prefix *ab-* means _____.
3.

wandering from (the normal course of events) *Ab/errant* uses the prefix *ab-* before the English word for wandering. What do you think the term *ab/errant* means? _____
_____.
4.

ab/errant
aberrant
ab er' ant *Ab/errant* is used in medicine to describe a structure that wanders from the normal. When some nerve fibers follow an unusual route, they form an _____ / _____ nerve.
5.

aberrant Aberrant nerves wander from the normal nerve track. Blood vessels that follow an unusual path are called _____ vessels.

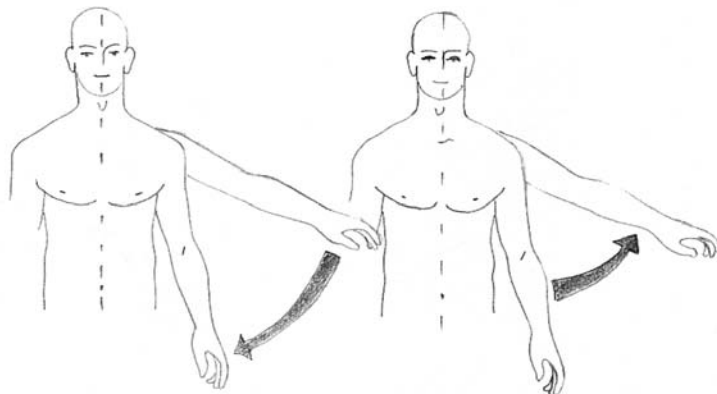


Figure 3.1 Adduction/Abduction

- ab/duction
abduction
ab duk' shun
6.
Ab/duct/ion means movement away from a midline. When the arm is raised from the side of the body, _____ / _____ has occurred.
away from (midline) / movement
- abducted
7.
When children have been kidnapped and taken from their parents, they have been _____.
- abducted
8.
Abduction can occur from any midline. When the fingers of the hand are spread apart, four fingers have been _____ from the midline of the hand.
- ad/duction
adduction
ad duk' shun
9.
On the other hand, *ad-* is a prefix meaning toward. Movement toward a midline is _____ / _____.
- ab-
ad-
10.
The prefix meaning from or away from is _____. The prefix meaning toward, or toward the midline, is _____.
- ad/hesion
11.
When two normally separate tissues join together, they adhere to each other like adhesive tape. Underline the part of the word that means sticking or joining: ad/hesion.
- ad/hesion
adhesion
ad hē' zhun
12.
Several years ago patients did not walk soon enough after surgery, which sometimes resulted in abnormal joining of tissues to each other. Write the word that means the abnormal joining and healing together of tissues: _____ / _____.
- adhesions
13.
Now patients walk the day following an appendectomy. This has nearly eliminated _____.

14.
Review Exercise

Complete the following:

away from
toward

The prefix ab- means _____ the midline.

The prefix ad- means _____ the midline.

In your own words, explain the meaning of the following terms:

movement away from
the midline

abduction _____.

sticking or joining
together

adhesion _____.

a structure that wanders
from the normal

aberrant _____.

a condition away from
normal

abnormal _____.

movement toward a
midline

adduction _____.

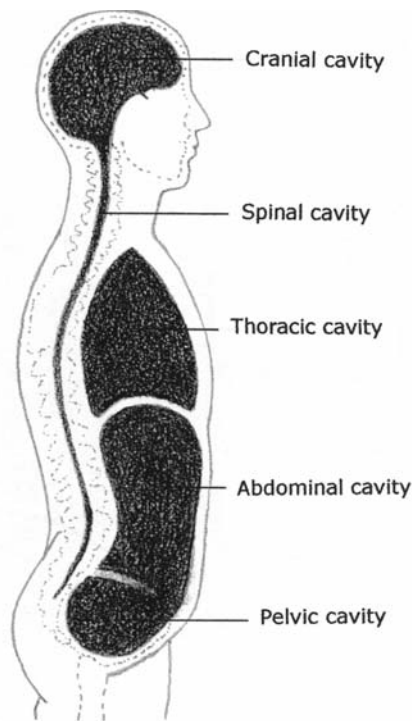


Figure 3.2 The Great Cavities

The Great Cavities are closed cavities not open to the outside of the body. Many of the body organs are suspended in these interval

cyst	<p>20. Abdomin/o/cyst/ic means pertaining to the abdomen and urinary bladder. The word root for bladder is _____.</p>
bladder	<p>Cyst/o is used to form terms that refer to the _____.</p>
cyst/o	<p>To refer to the urinary bladder or any sac containing fluid, use some form of _____ / _____.</p>
cyst/otomy cystotomy	<p>21. The word for temporary incision into a bladder is _____ / _____. bladder incision into (temporary)</p>
cyst/itis cystitis cyst/ectomy cystectomy	<p>Inflammation of a bladder is _____.</p> <p>The word for surgical removal of a bladder is _____.</p>
inflammation of the bladder	<p>22. Chances are good that by now you have figured out how word parts go together to create meaning. But let's review a simple rule and some examples.</p> <p>Rule: About 90 percent of the time, the meaning of a term can be unscrambled by identifying its component parts in reverse.</p> <p>For example, <i>cyst</i> means bladder; <i>-itis</i> means inflammation of.</p>
one who studies the skin, or a skin specialist	<p>Therefore cystitis means _____.</p> <p><i>Dermat</i> means skin; <i>-ologist</i> means a specialist (one who studies).</p> <p>Therefore dermatologist means _____.</p>
puncture of the abdominal cavity (to drain fluid)	<p><i>Abdomino</i> means abdomen; <i>-centesis</i> means surgical puncture of a cavity (to drain off fluid).</p> <p>Therefore abdominocentesis means _____.</p>

- the cranial cavity
31. Go back to Illustration 3.2. The space inside the head is called _____.
- head, including cranium and facial bones
- Cranium means skull. Cephal/o is the combining form meaning _____.
- of or pertaining to the head
- Therefore, cephalic means _____.
- cranial cavity
32. An increased amount of fluid in the head is called hydro/cephal/us. Both the fluid and the brain occupy the same space, called the _____.
- hydro/cephal/us
hydrocephalus
hī' drō sə fal' us
33. A disease characterized by an enlarged head due to an increased amount of fluid in the cranial cavity is called _____ / _____ / us.
water head
- hydrocephalus
34. Unless arrested, accumulation of watery fluid in the cranial cavity results in deformity of the skull, and brain damage may occur. This condition is called _____.
- abnormal fear
35. Hydro/phob/ia means having an abnormal fear of water. *Phobia* means _____.
- hydro/phob/ia
hydrophobia
hī drō fō' bē ə
36. An abnormal fear of water is _____ / _____ / _____.
water abnormal fear
- hydrophobia
- Some parents are abnormally afraid to have their children swim or even ride in a boat. These parents suffer from _____.
- hydro/therapy
hydrotherapy
hī' drō ther' ə pē
37. *Therapy* means treatment. Treatment by means of water is _____ / _____.
water treatment
- hydrotherapy
- Swirling water baths are a form of _____.

38. See Illustration 3.2 again, the bones of the pelvis form the pelvic cavity. A physician measures the size of a woman's pelvic cavity after she becomes pregnant. This procedure is called pelvi/metri/y.

pelvi The word root for pelvic cavity is _____.

metr The root for measurement is _____.

-y The ending meaning a procedure is _____.

39. To determine whether a woman has a pelvis large enough to avoid trouble during labor, a physician can measure the size of the pelvic cavity. This measurement is called _____.

pelvimetry
pel vim' ə trē

40. What do you think a pelvimeter is? _____

_____.

a measuring device
used for pelvimetry
(or equivalent)

41. When a physician measures the patient's pelvic cavity, the doctor is making a measurement called _____.

pelvimetry
pelvimeter
pel vim' ə ter

The instrument used is a _____.

42. Crani/o is used in terms referring to the cranial cavity or crani/um, or skull. Crani/o/plast/y means _____
_____.

surgical repair of the
skull or cranium

43. Write a medical term for each of the following:
a surgical procedure to excise part of the cranium,

crani/ectomy
craniectomy
krā nē ek' tō mē

_____ / _____;
skull excision of

incision into the skull,
_____ / _____;
cranium incision into

crani/otomy
craniotomy
krā nē ot' ō mē

crani/o/meter
craniometer

an instrument to measure the cranium,
_____ / _____ / _____.

measurement, meter	metr/o _____.
bony chest cage, thorax	thorac/o _____.
bony vault (brain), skull	crani/o _____.
abdomen, abdominal cavity	abdomin/o _____.

50.
Try that again.

SUGGESTED ANSWERS:

- therapy -otomy
- plasty -metry
- ectomy -centesis

Some suggestions:
(Yours may be different.)

Add a prefix or ending to each of the following combining forms and then explain the meaning of the term you created.

craniotomy	crani/o _____ _____
pelvimetry	pelv/i _____ _____
thoracoplasty	thorac/o _____ _____
abdominocentesis	abdomin/o _____ _____
cystectomy	cyst/o _____ _____
hydrotherapy	hydro- _____ _____

51.
Let's try something different. Coccus is a bacteria that causes disease. Cocc/i is the plural of cocc/us. When building terms about a whole family of bacteria called the cocci, we use the word root _____.

cocc-

(See Appendix B for more information on the formation of plurals.)

52.
Pneumonia is caused by the pneumococcus. From this term you know that the germ responsible for pneumonia belongs to the family of bacteria called _____ / _____ (plural).

cocc/i
kok' sē

dipl/o/cocc/i
 strept/o/cocc/i
 staphyl/o/cocc/i

53.
 There are three main types of a coccus bacteria:
 cocci growing in pairs are
dipl / o / _____ / _____;
 cocci growing in twisted chains are
strept / o / _____ / _____;
 cocci growing in clusters are
staphyl / o / _____ / _____.

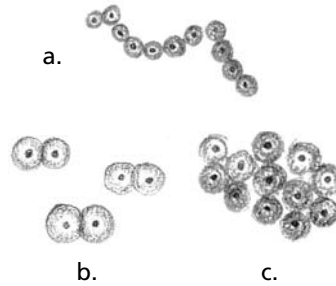


Figure 3.3 Cocci Bacteria

(a. strept) (b. diplo) (c. staphyl)

Bacteria (pl.) of the coccus family are round or spheroidal shaped single cell micro-organisms. Many types of cocci (pl.) exist and cause illness and infection in humans.

strept/o/cocc/i
 strep' tō kok sē

54.
 Refer to the above frame for help. If you see a twisted chain of cocci when examining a slide under a microscope, you would say they were _____ / _____ / _____ / _____.

staphyl/o/cocc/i
 staphylococci
 staf' i lō kok' sī

55.
Staphyle is the Greek word for bunch of grapes. If you should see a cluster of cocci when using a microscope, you would say they were _____ / _____ / _____ / _____.

staphylococci

56.
 The bacteria that cause carbuncles grow in clusters like bunches of grapes. Carbuncles are caused by _____ bacteria.

pertaining to
 producing pus

57.
 Py/o is used for words involving pus. Genesis (gen/o) is from a Greek word meaning produce or originate. Py/o/gen/ic means _____.

py/o/gen/ic
pyogenic

58. Staphylococci produce pus; therefore, these cocci are _____ / _____ / _____ / _____ bacteria.
pus producing

pyogenic

59. Bacteria that contain or produce pus are referred to as _____ bacteria.

pyogenic

60. Boils are purulent (contain pus). This pus is formed by _____ bacteria.
pus-producing

discharge of pus

61. The suffix *-orrhoea* means flow or discharge. Py/orrhoea means _____.

py/orrhoea
pyorrhoea
pī ō rē' ə

62. The suffix *-orrhoea* refers to any flow or discharge. A flow of pus is called _____ / _____.
pus discharge

pyorrhoea

63. Pyorrhoea alveolaris is a disease of the teeth and gums. The term that tells you pus is being discharged is _____.

pyorrhoea

64. When pus flows from the salivary gland, the disease is called _____ salivaris (of the salivary gland).

ear

65. Ot/orrhoea means a discharging ear; *ot-* is the word root for _____.

ot/orrhoea
otorrhoea
ō tō rē' ə

66. Ot/orrhoea is both a symptom and a disease. No matter which is meant, the word to use is _____ / _____.
ear discharge

- inflammation of the
(middle) ear
67.
Otorrhea may be a sign of ot/itis media (middle). Ot/itis media means _____.
- otorrhea
- This disease involves discharge, inflammation, pain, and deafness. What's the term for discharge from the ear? _____
- ot/algia
otalgia
68.
Otitis usually causes ear pain. Write the medical term for _____ / _____.
ear pain
- otalgia
ō tal' jē ə
69.
Small children often complain of an earache. The medical term for pain in the ear is _____.
- nose
70.
Rhinorrhea means discharge from the nose. *Rhin/o* is used in terms about the _____.
- rhin/itis
rhinitis
rī nī' tis
71.
Taking what is necessary from rhin/o, form a term meaning inflammation of the nose: _____ / _____.
- rhin/orrhoea
rhinorrhoea
72.
When your head cold is accompanied by a "runny nose" the medical term for the symptom is _____ / _____.
nose discharge
- rhinorrhoea
73.
Irritated or diseased sinuses in the head and face may discharge fluid through the nose. This is a form of _____.
- rhin/o/plasty
rhinoplasty
74.
Build a term that means surgical repair of the nose: _____ / _____ / _____
- rhin/otomy
rhinotomy
- Form a word that means incision into the nose: _____ / _____.

75.
Try these for a quick review.

SUGGESTED ANSWERS:

twisted, chainlike	double, paired
family of bacteria	producing, originating
pus	grape-like cluster
ear	nose

Using the suggestions above (only if you must), write the meaning of each of the following:

family of bacteria	cocc/us, cocc/i _____
grape-like cluster	staphyl/o _____
pus	py/o _____
nose	rhin/o _____
double, paired	dipl/o _____
ear	ot/o _____
twisted, chain-like	strept/o _____
producing, originating	gen/o _____

76.
Try again. Here are some word parts and combining forms to help you build some familiar medical terms.

rhin/o	cocc/i
ot/o	py/o
-plasty	-orrhoea
staphyl/o	gen/o
-algia	dipl/o

Put together a medical term that best defines each of the following descriptions:

diplococci	A family of coccus bacteria found growing in pairs _____.
pyogenic	Pertaining to producing pus, or pus-forming _____.
rhinorrhoea	A runny discharge from the nose _____.
otalgia	Pain in the ear, earache _____.
staphylococci	Bacteria of the coccus family growing in grape-like clusters _____.
rhinoplasty	Surgical repair (reconstruction) of the nose _____.

77.
 calculus or stone A rhin/o/lith is a calculus or stone in the nose. *Lith/o* is the combining form for _____.
78.
 calculi (calculus) or stones Lithogenesis means producing or forming _____.
79.
 lith/otomy Taking what is necessary from lith/o, build a word meaning an incision for the removal of a stone:
 lithotomy _____ / _____.
 lith ot'ə mē stone incision into (for)
80.
 gall or bile Calculi or stones form in many places in the body. A chol/e/lith is a gallstone. Chole is the word for _____.
81.
 chole/lith One cause of gallbladder disease is the presence of a gallstone or
 cholelith _____ / _____.
 gall stone
82.
 cholelith No matter what its size or shape, irritation and blockage of the gallbladder can be caused by a bile or gallstone, called _____.
83.
 gallbladder Gall is the fluid stored in the gallbladder. Cholecyst is a medical name for the _____.
84.
 chole/cyst/itis When gallstones cause inflammation of the gallbladder, this condition is called
 cholecystitis _____ / _____ / _____.
 kō' lē sis tī' tis gall bladder inflammation
85.
 cholecystitis Inflammation of the gallbladder is accompanied by pain and emesis. The condition is called _____.
86.
 cholecystitis Fatty foods like butter, cream, and whole milk contain fat and should be avoided by patients with an inflammatory condition of the gallbladder, or _____.

chole/cyst/otomy
 cholecystotomy
 kō lē sis tot' e mē
 or
 chole/lith/otomy
 cholelithotomy
 kō' lē lith ot' ə mē

87.
 When a cholelith causes cholecystitis, one of two surgical procedures may solve the problem. One is an incision into the gallbladder to remove stones, called a _____ / _____ / _____.
gall stone incision into
 or _____ / _____ / _____.
gall stone incision into

chole/cyst/ectomy
 cholecystectomy
 kō' lē sis tek' tō mē

88.
 More often, the presence of a gallstone calls for excision of the gallbladder, called _____ / _____ / _____.
gall bladder surgical removal

89.
 It's time to review. From List B select the best meaning for each term in List A. Write your choice in the space provided.

LIST A
 pelvis
 stone, calculus
 gall, bile
 pus
 skull
 head
 measure
 nose
 ear
 chainlike
 grapelike
 double
 chest
 bladder, sac
 abdomen

LIST A
 pelv/i _____
 lith/o _____
 chol/e _____
 py/o _____
 crani/o _____
 cephal/o _____
 metr/o _____
 rhin/o _____
 ot/o _____
 strept/o _____
 staphyl/o _____
 dipl/o _____
 thorac/o _____
 cyst/o _____
 abdomin/o _____

LIST B
 measure
 skull
 pus
 pelvis
 head
 gall, bile
 stone, calculus
 chainlike
 double, pairs
 chest, thorax
 bladder, sac
 nose
 abdomen
 grape-like
 ear

away from
 toward
 watery fluid, water

90.
 Complete the following:
 The prefix ab- means _____ the midline.
 The prefix ad- means _____ the midline.
 The prefix hydro- means _____.

91.

Select the best meaning for each of the following word parts.

treatment	therapy _____	surgical puncture
calculus, stone	lith _____	abnormal fear
discharge, flow	orrhoea _____	calculus, stone
surgical puncture	centesis _____	treatment
abnormal fear	phobia _____	discharge, flow

92.

Each of the suffixes below means *of, or pertaining to* the word root to which it is attached. Write the meaning of each term.

	SUFFIXES	EXAMPLE	MEANING
of or pertaining to the duodenum	-al	duoden/al	_____
pertaining to the stomach	-ic	gastr/ic	_____
pertaining to the lumbar area (of the spine)	-ar	lumb/ar	_____
pertaining to the heart	-ac	cardi/ac	_____

93.

Here are more than 40 new medical terms you formed in Unit 3. Read them one at a time and pronounce each aloud. Better yet, ask a friend to say them aloud and you spell them.

aberrant (ab er' ant)	craniotomy (krā nē ot' ō mē)
abdominal (ab dom' i nəl)	cranium (krā' nē um)
abdominocentesis (ab dom' i nō sen tē' sis)	cystitis (sis tī' tis)
abduction (ab duk' shun)	cystocele (sis' to sēl)
adduction (ad duk' shun)	cystotomy (sis tot' ə mē)
cardiocentesis (kār' dē ō sen tē' sis)	diplococci (dip' lō kok' sī)
cephalic (cə fal' ik)	hydrocephalus (hī' drō sə fal' us)
cholecystectomy (kō' lē sis tek' tō mē)	hydrophobia (hī' drō fō' bē ə)
cholecystitis (kō' lē sis tī' tis)	hydrotherapy (hī' drō ther' ə pē)
cholelithotomy (kō' lē lith ot' ə mē)	lithogenesis (lith' ō jen' ə sis)
craniectomy (krā nē ek' tō mē)	lithotomy (lith ot' ō mē)
cranioplasty (krā' nē ō plas' tē)	otalgia (ō tal' jē ə)
	otitis (ō tī' tis)
	otorrhea (ō tō rē' ə)
	pelvic (pel' vik)
	pelvimetry (pel vim' ə trē)

pyogenic (pī ō jen' ik)	streptococci (strep' tō kok' sī)
pyorrhea (pī ō rē' ə)	thoracic (thō rā' sik)
rhinitis (rī nī' tis)	thoracocentesis
rhinolith (rī' nō lith)	(thōr' ə kō sen tē' sis)
rhinoplasty (rī' nō plas tē)	thoracoplasty (thōr' ə kō plas' tē)
rhinorrhea (rī nōr rē' ə)	thoracotomy (thōr ə kot' ə mē)
staphylococci (staf' i lō kok' sī)	

Take the Unit 3 Self-Test before going on.

Unit 3 Self-Test

Part 1

From the list on the right, select the correct meaning for each of the following terms. Write the letter in the space provided.

- | | |
|--------------------------|---|
| _____ 1. Thoracocentesis | a. Headache |
| _____ 2. Cholelithotomy | b. Relating to the pelvis, pelvic cavity |
| _____ 3. Otorrhea | c. Wandering or out of the normal place |
| _____ 4. Cystotomy | d. Tapping or puncturing the chest cavity (thorax) |
| _____ 5. Abdominalgia | e. Movement toward the midline |
| _____ 6. Cranium | f. Abnormal fear of water |
| _____ 7. Cephalgia | g. Running or draining from the ear |
| _____ 8. Hydrophobia | h. Incision into the bladder |
| _____ 9. Adduction | i. Producing pus |
| _____ 10. Streptococci | j. The bony vault surrounding the brain |
| _____ 11. Pyogenic | k. Incision for the purpose of removing a gallstone |
| _____ 12. Aberrant | l. Commonly referred to as a “belly-ache” |
| _____ 13. Pelvic | m. Cocci bacteria that grow in chains |
| _____ 14. Cholecystotomy | n. Surgical repair or restoration of the nose |
| _____ 15. Rhinoplasty | o. Incision into the gallbladder |

Part 2

Complete each of the medical terms on the right with the appropriate word root:

- | | |
|--|----------------|
| 1. Herniation of a bladder | _____ cele |
| 2. Tapping or puncturing of the heart chamber | _____ centesis |
| 3. Surgical repair of the bony vault that encloses the brain | _____ plasty |
| 4. Earache | _____ algia |
| 5. Gallstone | _____ lith |
| 6. Inflammation of the nose | _____ itis |
| 7. Measurement of the pelvis | _____ metry |
| 8. Relating to the thorax | _____ ic |
| 9. Collection of fluid in the head | Hydro _____ |
| 10. Incision into the cranium | _____ otomy |
| 11. Relating to the formation of pus | _____ genic |
| 12. Surgical repair of the chest cage | _____ plasty |
| 13. Instrument for measuring the pelvis | _____ meter |
| 14. Relating to the abdomen | _____ al |
| 15. Surgical removal of the gallbladder | _____ |

ANSWERS**Part 1**

1. d
2. k
3. g
4. h
5. l
6. j
7. a
8. f
9. e

Part 2

1. Cystocele
2. Cardiocentesis
3. Cranioplasty
4. Otagia
5. Cholelith
6. Rhinitis
7. Pelvimetry
8. Thoracic
9. Hydrocephalus

- | | |
|-------|---------------------|
| 10. m | 10. Craniotomy |
| 11. i | 11. Pyogenic |
| 12. c | 12. Thoracoplasty |
| 13. b | 13. Pelvimeter |
| 14. o | 14. Abdominal |
| 15. n | 15. Cholecystectomy |

4 The Genitals and Urinary Tract

Unit 4 is a little longer than the previous ones. Again, you'll be working with roots, prefixes, and suffixes. You'll make more than 50 new medical terms and practice defining them. You'll work with anatomical terms and some medical conditions associated with these areas of the body. There are illustrations showing the anatomy of the urinary tract and genital organs of both male and female. Make these illustrations work for you. Bookmark the pages and refer to them often. Move slowly. When you encounter a difficult example, go back a frame or two and work through it again. Help yourself understand before moving on.

Mini-Glossary

angi/o (vessel)	neur/o (nerve)
arter/i/o (artery)	o/o (egg, ovum)
blast/o (embryo)	oophor/o (ovary)
colp/o (vagina)	orchid/o (testes)
crypt/o (hidden)	peps/o, peps/ia (digestion)
fibr/o (fiber)	pne/o (air, breathe)
hem/o, hemat/o (blood)	pyel/o (pelvis of the kidney)
hyster/o (uterus)	salping/o (fallopian tube)
kinesi/o (motion)	scler/o (tough, hard)
lys/o (destruction)	spermat/o (sperm)
men/o (menses)	ureter/o (ureter)
my/o (muscle)	urethr/o (urethra)
nephr/o (kidney)	ur/o (urine)
a-, an- (without)	-blast (embryonic)
brady- (slow)	-y, -ia (noun ending)
dys- (pain)	-orrhagia (hemorrhage)

tachy- (*fast*)

-orrhaphy (*suture*)

-pexy (*fixation*)

-ptosis (*drooping*)

-spasm (*twitching*)

-sperm (*sperm*)

Did you remember to complete the Unit 3 Review Sheet before beginning this new unit? Practice, practice, practice. It really works (page 251).

slow

1.

Brady is used in words to mean slow.

Brady/cardia means _____ heart action.

brady/cardia

bradycardia

brad ē kär' dē ə

2.

The term for abnormally slow heart action is

_____ / _____.

slowness of movement

3.

Kinesi- is used in words to mean movement or motion. Brady/

kinesia means _____.

pain on movement or
movement pain

4.

Kinesi/algia means _____

_____.

kinesi/algia

kinesialgia

kin ē' sē al' jē ə

5.

When moving any sore or injured part of the body, pain occurs. Moving a broken arm can cause pain described as

_____ / _____.

kinesialgia

6.

After your first horseback ride, almost any movement causes a condition called _____.

kinesi/ology

kinesiology

kin ē' sē ol' ə jē

7.

The suffix *-ology* means study of. (Remember ologist?) The study of muscular movements is

_____ / _____.

movement

study of

8.
Kinesi/ology is the study of movement. The study of muscular movement during exercise is known as the scientific field of _____.
- kinesiology
9.
The whole science of how the body moves is embraced in the field of _____.
- kinesiology
10.
Brady/kinesia means _____.
- abnormally slow movement
11.
Tachy- is used in words to show the opposite of slow. Thus tachy/cardia means _____.
- abnormally fast or rapid heart action
- tachy/cardia
tachycardia
tak ə kār' dē ə
12.
Write the medical term for an abnormally fast heartbeat: _____ / _____.
13.
Pne/o comes from the Greek word *pneia* (breathe). *Pne/o* anyplace in a word means _____.
- breathe or breathing
14.
When *pne/o* begins a word, the "p" is silent. When *pne/o* occurs later in a word, the "p" is pronounced; for example, when you pronounce brady/pnea, you _____ pronounce the letter "p."
(will/will not)
- will
brad ip nē' ə
silent
- In the term pneumonia, the "p" is _____.
(pronounced/silent)
15.
Brady/pnea means _____.
- slow breathing
- A word for rapid breathing is _____ / _____.
- tachy/pnea
tachypnea
tak ip nē' ə
16.
The rate of respiration (breathing) is controlled by the amount of carbon dioxide in the blood. Increased carbon dioxide speeds up breathing and causes _____.
- tachypnea

- tachypnea 17. Muscle exercise increases the amount of carbon dioxide in the blood. This speeds respiration and produces _____.
- without breathing 18. The prefix *a-* literally means without. Thus apnea means _____.
- apnea
ap' nē ə 19. A/pnea really means temporary cessation of breathing. If the failure to breathe were not temporary, death would result. Temporary cessation of breathing is referred to as _____.
- apnea 20. If the level of carbon dioxide in the blood falls very low, temporary cessation of breathing results. This is called _____.
- bradypnea 21. If breathing is merely very slow, it is called _____.
- tachypnea
a- 22. When breathing is abnormally fast, it is called _____. The prefix meaning without is _____.
- dys/pne/a
dyspnea
disp' nē ə 23. The prefix *dys-* means painful, bad, or difficult. Dys/troph/y literally means bad development. Write a word for difficult breathing: _____ / _____.
- dys- 24. Dys/men/orrhea means painful menstruation. The prefix for painful, bad, or difficult is _____.
- poor or painful
digestion 25. *Pepsis* (peps/o) is the Greek word for digestion. Dys/peps/ia means _____.
- dys/peps/ia
dyspepsia
dis pep' sē ə 26. Eating under tension may cause painful or poor digestion. This is called _____ / _____ / _____.

dyspepsia

27.
Contemplating the troubles of the world while eating is a good way to cause _____.

28.
Here's a quick review of what you just covered. From List B select the best meaning for each term in List A. Write your choice in the space provided.

menses
digestion
breathe, breathing
movement

LIST A
men/o _____
peps/o _____
pne/o _____
kinesi/o _____

LIST B
digestion
movement
menses
breathe, breathing

29.
Try these.

painful
very slow
abnormally fast
without, absence of

LIST A
dys- _____
brady- _____
tachy- _____
a- _____

LIST B
very slow
painful
without, absence of
abnormally fast

30.
Build a word for each of the following definitions using a prefix you just learned.

a/pnea
tachy/cardia
brady/kinesia
dys/pepsia

absence of breath _____ / _____
fast heartbeat _____ / _____
slow movement _____ / _____
painful digestion _____ / _____

Take a short break before beginning the next segment.

hem/angi/itis
 hemangiitis
 hē man' jē ī tis

hem/o/lysis
 hemolysis
 hē mol' ə sis
 or another form is
 hemat/o/lysis
 hē mə tol' ə sis

40.
Hem/o refers to blood. A tumor of a blood vessel is a hem/angi/oma. (Note dropped o.) An inflammation of a blood vessel is _____ / _____ / _____.

Breaking down or dissolution of blood cells is _____ / _____ / _____.

hemat/o/logy
 hematology
 hē mə tol' ə jē

hemat/o/logist
 hematologist
 hē mə tol' ə jist

41.
 Hemat/o also refers to blood. The study of blood is _____ / _____ / _____.

One who specializes in the science of blood is a _____ / _____ / _____.

42.
 Let's go over the new material again briefly. Match the best definition in List B with the word root in List A. Write your selection in the space provided.

artery
 fibrous connective tissue
 blood
 fat
 soften
 muscle
 nerve
 harden
 blood and lymph vessel

LIST A
 arteri/o _____
 fibr/o _____
 hem/o, hemat/o _____
 lip/o _____
 malac/o _____
 my/o _____
 neur/o _____
 scler/o _____
 angi/o _____

LIST B
 fat
 muscle
 artery
 blood and lymph vessel
 soften
 harden
 fibrous connective tissue
 blood
 nerve

Now match the best definition in List B with the suffix in List A. Write the term.

destruction of
 twitching
 tumor
 inflammation of
 germ cell (immature)
 condition of
 science, or study of

LIST A
 -lysis _____
 -spasm _____
 -oma _____
 -itis _____
 -blast _____
 -osis _____
 -ology _____

LIST B
 tumor
 science, or study of
 condition of
 twitching
 inflammation of
 destruction of, dissolution
 germ cell (immature)

43.

Build a word for each of the following definitions.

arterio/scler/osis	a condition of hardening of the arteries
hemat/oma	_____ / _____ / _____
angio/spasm	blood tumor _____ / _____
myo/fibr/oma	blood vessel spasm _____ / _____
or fibromyoma	fibrous muscle tumor _____ / _____ / _____
neuro/blast	nerve tissue germ cell _____ / _____
lipo/lysis	breakdown of fat tissue _____ / _____

Take a break.

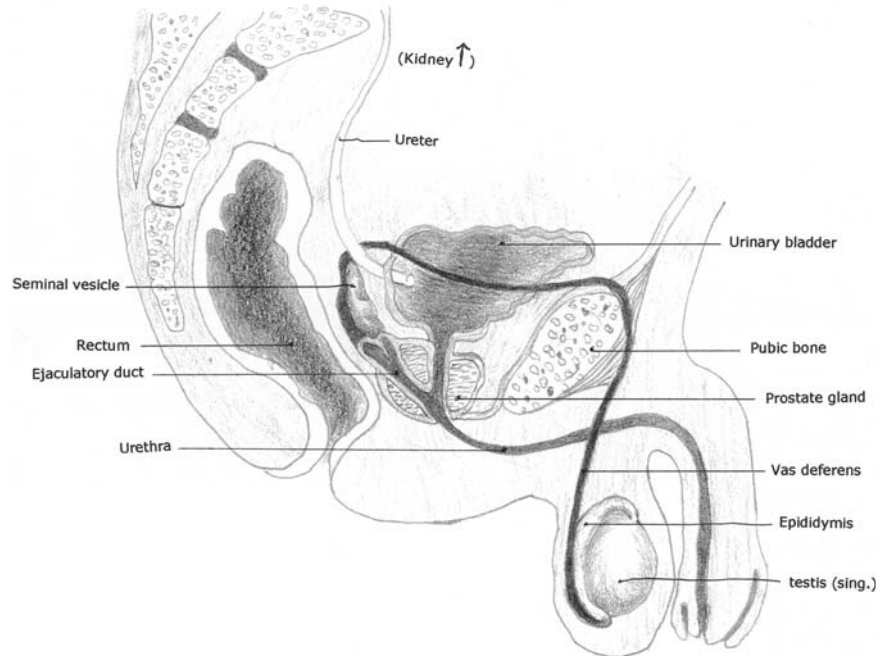


Figure 4.1 The Male Reproductive Organs (Midline Section)

The primary function of the male reproductive system is to produce *sperm cells* and deliver them to the female reproductive system for fertilization of the egg cells. The major organs of the male reproductive system are the paired *testes*, where sperm cells are produced. Surrounding the testis is a comma-shaped structure called the *epididymis*. Mature sperm cells are stored in the epididymis. The *vas deferens* is a long tube that conveys the mature sperm for ejaculation during copulation. It courses from the epididymis up into the body, over the pubic bone, curves to the left, passes the *urinary bladder*, curves again near the *ureter*, and passes downward. Here the vas joins with the duct leading from the *seminal vesicle* and forms the *ejaculatory duct*. The seminal vesicle is a small bladder-like structure that adds secretions to the sperm to form semen. The ejaculatory duct releases the semen and it enters the *urethra* as it exits the urinary bladder. The urethra is a 6 to 8 inch long tube in the male. It passes by the *prostate*, a chestnut-shaped gland surrounding the beginning of the urethra, and enters the penis, to deliver its contents for fertilization of the female egg cell.

Several accessory structures in the the diagram show their relationships to the reproductive organs. The ureter can be seen near

the urinary bladder. It delivers urine from the kidney. The last portion of the large intestine is the *rectum*, and the end of the digestive tract is the *anus*.

sperm or spermatazoon (spermat/o)	ureter (ureter/o)
testis (orchid/o)	urethra (urethr/o)
prostate (prostat-, prostat/o)	

Review the illustration above, then refer to it as you work through the next 12 frames.

44.
 testes (pl.)
 testis (sing.)

The testes are organs that manufacture sperm, the male germ cell; that is, spermatozoa (plural) are formed in the _____.

45.
 excision of a testicle,
 testis

Orchid/algia means pain in a testicle or testis.
 Orchid/ectomy means _____.

orchid/itis
 orchiditis
 or ki dī' tis

46.
 Build a word meaning inflammation of a testicle,
 _____ / _____;

orchid/otomy
 orchidotomy
 or kid ot' ō mē

incision into a testis, _____ / _____.

crypt
 kript'

47.
 A crypt/ic remark is one with a hidden meaning. A crypt/ic belief is obscure. The word root for hidden or obscure is _____.

crypt/orchid/ism
 cryptorchidism
 kript ōr' kid ism

48.
 Near the time of birth the testes of the fetus normally descend from the abdominal cavity into the scrotum. Sometimes this fails to happen, and the testes are not evident at birth. This condition of undescended testes is called
 _____ hidden / _____ testicle / ism.

cryptorchidism

49.
 When a testis is hidden in the abdominal cavity, the condition is called _____.

orchid/o/(pexy)

50.
An operation to repair cryptorchidism is called orchid/o/pexy.
Circle the part of the term that means to fix a testis in its place.

formation of
spermatozoa, sperm,
or male germ cells

51.
Sperma is the Greek word meaning seed.
Spermat/o is used in words about spermat/o/zoa or male germ cells (sperm). Spermat/o/genesis means _____
_____.

spermat/o/lysis
spermatolysis
sperm' ə tol' i sis

52.
Blast- means immature.
-Lysis means dissolution or destruction.
Give a word meaning the destruction of spermatozoa,
_____ / _____ / _____.

spermat/o/blast
spermatoblast
sper mat' ō blast

How about these:
an immature male cell, germ cell, sperm,
_____ / _____ / _____;
resembling sperm, _____ / _____.

spermat/oid
spermatoid
sper' mä toid

53.
Summarize what you learned:

muscle
vessel
nerve

my/o means _____,
angi/o means _____,
neur/o means _____.

twitching, spasm
germ cell (immature)
hard, hardened
fibrous
destruction of

54.
Again.
spasm means _____,
blast/o means _____,
scler/o means _____,
fibr/o means _____,
lysis means _____.

55.
And these.

spermatozoa (sperm)
blood
blood
formation of, or
origination

spermat/o	means _____,
hemat/o	means _____,
hem/o	means _____,
genesis	means _____.

Correct any definitions you may have missed; then cover the word roots, read the definitions you have written, and write the appropriate word root in the right-hand margin.

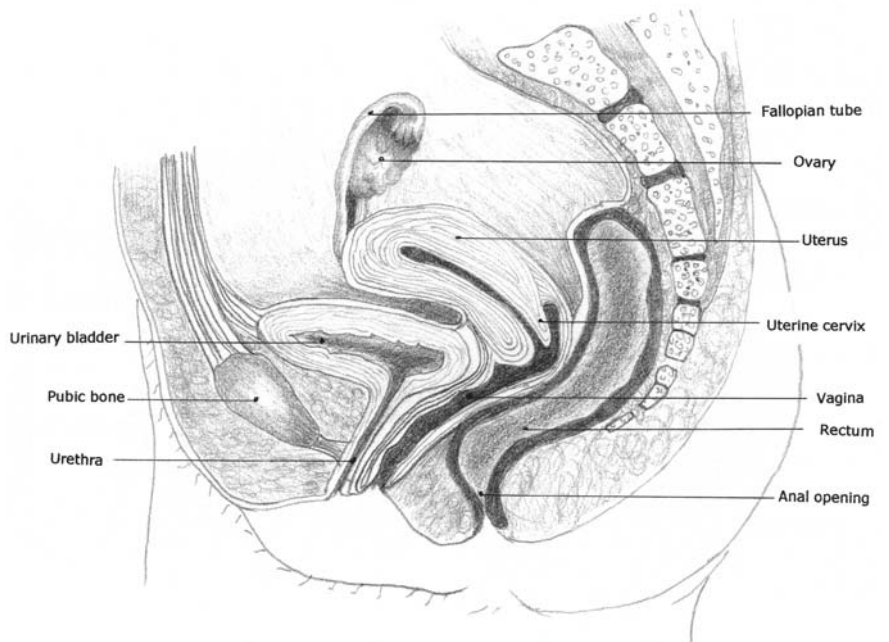


Figure 4.2 The Female Reproductive Organs (Midline Section)

The female reproductive system is responsible for producing female sex cells for potential union with male sperm cells. In addition, the female reproductive system nurtures the developing embryo and fetus for a nine-month period. The *ovaries* are the female reproductive organs in which egg cells are formed. An egg cell (*ovum*) is liberated into the *fallopian tube* and makes its way to the *uterus*. The uterus is a thick muscular organ that serves as a site

for implantation of a fertilized ovum and nourishment of the embryo and fetus. A long narrow internal space leads from the uterus through a narrow neck called the *uterine cervix*. The cervix opens into the vagina. The *vagina* is a tubular organ approximately four inches in length. It receives the semen from the penis and transmits it to the uterus. It acts as a birth canal from the uterus to the outside for the newborn.

Other organs lie close to the female reproductive organs. Among these are the muscular *urinary bladder* and the *urethra*. The urethra is a short tube leading from the bladder which delivers urine to outside the body. The *rectum* is the last portion of the digestive organs and terminates at the *anus*.

ovary (oophor/o)	urinary bladder (cyst/o)
fallopian tube (salping/o)	urethra (urethr/o)
uterus (hyster/o)	vagina (colp/o)
ovum (o/o)	

Bookmark the illustration above and refer to it as you work through the next 20 frames.

egg (a cell that will become an ovum) 56. The Greek word for egg is *oon*. In scientific words, o/o (pronounce both o's) means egg or ovum. An o/o/blast is an immature _____ cell.

excision or surgical removal of the ovary 57. An ovum is discharged from the ovary. The combining form used in words referring to the ovary is *oophor/o*. What does oophor/ectomy mean? _____

oophor/itis 58. Using what you need from oophor/o, build a word that means oophoritis inflammation of an ovary: _____ / _____
 oō fôr ī' tis

oophor/ectomy 59. *Oophor-* is the root for ovary. Build a term for each of the following: oophorectomy excision of an ovary, _____ / _____; oō fôr ek' tō mē
 oophor/oma tumor of an ovary (ovarian tumor),
 oophoroma _____ / _____
 oō fôr ō' ma

- fixation (of) 60. Oophor/o/pexy means fixation of a displaced ovary. -Pexy is a suffix meaning _____.
- oophor/o/pexy 61. When an ovary is displaced, a surgical procedure to fix it back in its normal place is called _____ / _____ / _____.
- oophoropexy 62. The surgical procedure to correct the position of a prolapsed (dropped or sagging) ovary is called an _____.
- oō' fôr ô pek' sē
63. *Salping/o* is used to build terms that refer to the fallopian tube(s). A salpingoscope is an instrument used to examine the _____.
- fallopian tube(s)
64. Using what you need of salping/o, build a word meaning inflammation of a fallopian tube, _____ / _____;
- salping/itis salpingitis sal pin jī' tis
- salping/ectomy salpingectomy sal pin jek' tō mē
- excision of a fallopian tube, _____ / _____;
- salping/ostomy salpingostomy sal pin gos' tō mē
- a permanent opening into a fallopian tube, _____ / _____.
65. In words built from laryng/o, pharyng/o, and salping/o, the “g” is pronounced as a hard “g” when followed by an “o” or an “a.” The “g” in good is a hard “g.” For example, in laryngalgia and salpingocele, the “g” of the word root is pronounced hard as in _____.
- game and good (pronounce them) _____ (game/good) or (germ/giant)
66. In laryngostomy, pharyngotomy, and salpingopexy, the “g” is followed by an “o” and is a _____ sound.
- hard (pronounce them) _____ (hard/soft)
67. A hard “g” precedes the vowels _____ and _____.
- “o” and “a”

germ and giant
(pronounce them)

68.
In words built from laryng/o, pharyng/o, and salping/o, the “g” is soft *when followed by an “e” or an “i”*; for example, in laryngectomy and salpingitis, the “g” is soft as in _____.
(game/good) or (germ/giant)

soft (pronounce them)
“e” and “i”

69.
In salpingian, laryngitis, and pharyngectomy, the “g” is given a _____ sound because it precedes the vowels _____ and _____.
(soft/hard)

laryngectomy
lar in jek' tō mē
pharyngalgia
far ing gal' jē a
pharyngitis
far in jī' tis
salpingo-oophorectomy
sal pin' gō ōō fôr ek'
tō mē

70.
Pronounce each of the following terms.

laryngectomy pharyngitis
pharyngalgia salpingo-oophorectomy

In each of the above terms circle the vowel that makes the “g” soft.

salping/o-/oophor/ itis
salpingo-oophoritis
sal' pin gō ōō fôr ī' tis

71.
In compound medical words, if two like vowels occur between word roots, they are separated by a hyphen. Use salpingo-oophorectomy as a model and build a word that means inflammation of the fallopian tube and ovary:
_____ / _____ / _____ / _____.

Use a hyphen between
two like vowels when
joining word roots

72.
Explain when a hyphen (-) is used in compound terms.

_____.

inflammation of the
vagina

73.
Colp/o is used in words about the vagina. Colpitis means _____
_____.

vaginal spasm
colp/otomy
colpotomy
kôl pot' ō mē

74.
A colp/o/spasm is a _____.
Incision into the vagina is a _____ / _____.

colp/o/plasty (you pronounce)

colp/o/scope
colposcope
kôl' pō skōp

uterus

hysterotomy

hysterospasm

hysteropexy

75.
Build a word meaning surgical repair of the vagina,
_____ / _____ / _____;

instrument for examining the vagina,
_____ / _____ / _____.

76.
Hyster/o is used to build words about the uterus. A hyster/ectomy is an excision, or surgical removal of, the _____.

77.
Write words for the following:
an incision into the uterus, _____;
a spasm of the uterus, _____;
surgical fixation of the uterus, _____.

78.
Some terms are composed of many word roots plus a prefix and a suffix. These terms usually list the parts of the body in a special order.

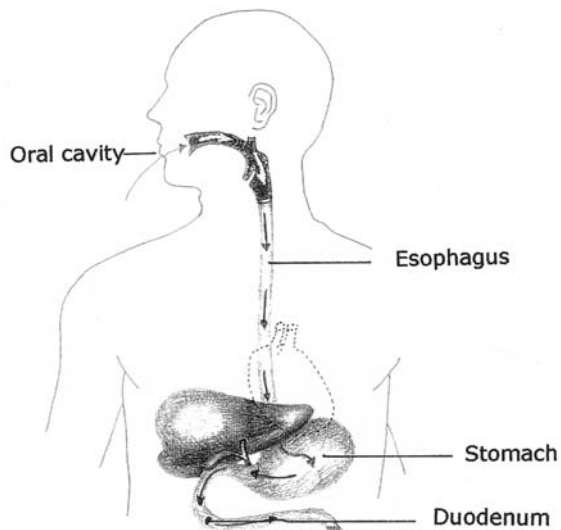


Figure 4.3 Path of EGD Examination

Take a look at Illustration 4.3 above. For example, when you swallow food it passes from the mouth to the esophagus to the stomach

an endoscopic exam of the esophagus, stomach, and duodenum.

to the duodenum. So when a physician takes a look inside the digestive system with an endoscope the procedure is called

esophago / gastro / duoden / oscopy

Describe what the procedure EGD means. _____
_____.

79.

See Illustration 4.2, The Female Reproductive Organs. Examination of the female genital system begins at the vulva (external genitalia), then the vagina, and on to the uterus, fallopian tubes, and ovaries.

hystero/salpingo/oophor/ectomy

Follow the same order and build a word that means an operation to remove the uterus, fallopian tubes, and ovaries:

80.

Stop here and summarize what you've just covered. Match the best definition in List B with the word root in List A. Write your selection in the space provided.

ovary
male germ cells
uterus
fallopian tubes
testicle
vagina
egg, ovum
hidden
surgical fixation
produce, originate
resembling
twitching, spasm
germ cell, immature cell
suturing to repair

LIST A
oophor/o _____
spermat/o _____
hyster/o _____
salping/o _____
orchid/o _____
colp/o _____
o/o _____
crypt _____
-pexy _____
-genesis _____
-oid _____
-spasm _____
-blast _____
-orrhaphy _____

LIST B
fallopian tubes
vagina
male germ cells
egg, ovum
hidden
testicle
ovary
uterus
resembling
twitching, spasm
suturing to repair
produce, originate
germ cell, immature cell
surgical fixation

81.

Build a word for each of the following:

colp/orrhaphy
hystero/spasm

suturing (to repair) the vagina, _____ / _____;
spasm of the uterus, _____ / _____;

orchido/pexy	fixation of the testis, _____ / _____;
salpingo/oophor/itis	inflammation of ovary and fallopian tube, _____ / _____ / _____;
spermato/genesis	formation of spermatozoa, _____ / _____;
spermato/blast	(immature) male germ cell, _____ / _____.

82.

Now let's have some fun. Read each term and its meaning. Then study the accompanying illustrations.

Hernia is the protrusion of an organ, or part of an organ, through the wall of the cavity that normally contains it; a rupture.

Ptosis is the sinking down or sagging of an organ or part (from its normal position).

Anomaly is an irregularity. It is an organ or structure that is abnormal or contrary to the general rule.

Aneurysm is a localized abnormal dilation of a blood vessel, or ballooning out of the vessel at a weak point.

Write the correct term below each illustration:

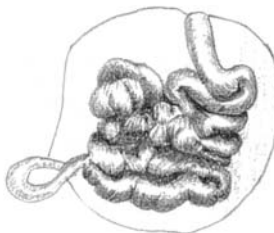
Figure 4.4



A. _____



B. _____



C. _____



D. _____

- A. anomaly
- B. aneurysm
- C. hernia
- D. ptosis

sinking down, prolapse, or sagging

83.
Hyster/o/ptosis means prolapse (sagging) or sinking down of the uterus. Ptosis (pronounced tō' sis) is a word that means _____.

hyster/o/ptosis

84.
Upon examination, a physician may find that a patient's uterus has prolapsed or moved lower in the pelvic region. The medical term describing this condition is _____ / _____ / _____.

hyster/o/ptosis
hysteroptosis
his' ter op tō' sis

When uterine prolapse occurs, a surgeon may surgically fix the uterus back in its normal place. A hysteropexy would be done to correct or repair the condition known as _____ / _____ / _____.

85.
From the terms provided, select one that best fits each definition.

anomaly hernia aneurysm ptosis

hernia

Protrusion of an organ or part through the wall of the cavity in which it is normally enclosed. _____

ptosis

The prolapse, or sagging, of an organ or part from its normal position. _____

aneurysm

The abnormal ballooning out of a blood vessel at a weak point. _____

anomaly

Irregularity in structure of an organ or part; the structure is contrary to the general rule. _____

86.
Fill in the missing words to complete each of the following definitions.

normal

Ptosis is the sagging of an organ or part from its _____ position.

wall

Hernia is the protrusion of an organ or part through the _____ of a cavity that normally contains it.

rule

Anomaly is an irregularity. It is an organ or structure that is contrary to the _____.

blood vessel

Aneurysm is the abnormal ballooning out at a weak point in a _____.

87.

Complete each of the following descriptions by writing the form of the term that fits best.

anomalous (adjective)
anomaly is OK (noun)

An irregular organ or structure that is contrary to the general rule is said to be _____.

herniated (verb)

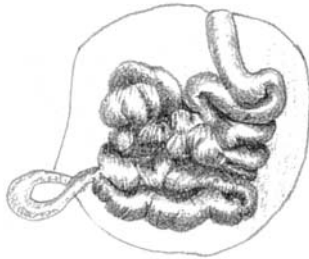
When an organ or part protrudes through the wall of the cavity that normally contains it, we say it has _____.

aneurysm (noun)

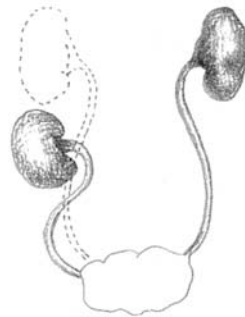
When a weak spot in the wall of the aorta (artery) balloons out, we call it an aortic _____.

nephr/o/ptosis

Nephr/o is used in words that refer to the kidney. If a kidney sags from its normal position, the medical condition is referred to as _____ / _____ / _____.



A _____



B _____



C _____



D _____

- A. hernia
- B. ptosis
- C. anomaly
- D. aneurysm

Figure 4.5 Label each illustration above.

88.

In your own words, write a brief definition for each of the following terms.

We suggest something like these:

aneurysm: an abnormal ballooning out of a blood vessel at a weak point.

aneurysm: _____

anomaly: an organ or structure that is contrary to the rule.

anomaly: _____

hernia: protrusion of an organ or part through the wall that normally contains it.

hernia: _____

ptosis: sagging of an organ or part from its normal location.

ptosis: _____

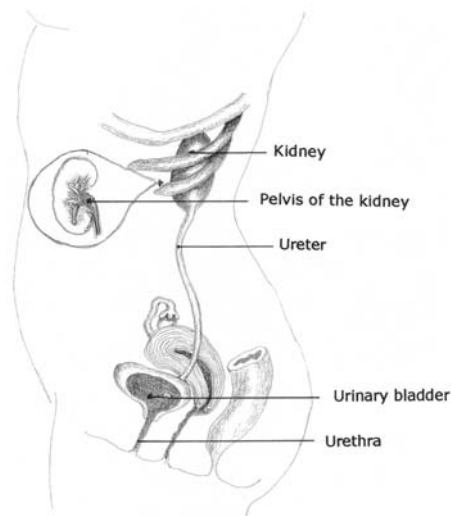


Figure 4.6 The Female Urinary Tract

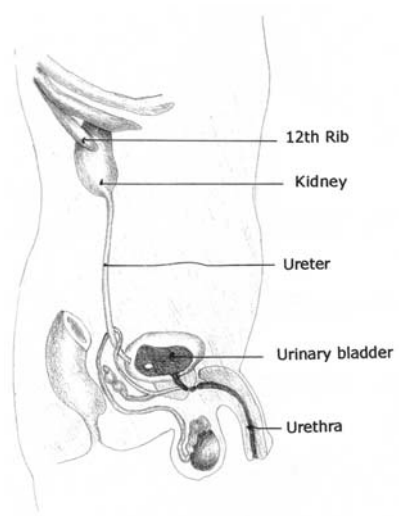


Figure 4.7 The Male Urinary Tract

The Urinary System involves elimination of waste, toxic products and surplus materials from the body. It also regulates the water and salt content of the body. The Urinary Tract consists of paired *kidneys* and *ureters*, a single *urinary bladder* and a *urethra*. The main organs of excretion are the kidneys. The kidneys are bean-shaped organs about the size of a fist. They are located on either side of the spinal column and usually extend from the 12th rib. One kidney touches the spleen and the other is slightly below the liver. A ureter exits each kidney at the *renal pelvis*. This tube carries urine to the main storage organ, the urinary bladder. The bladder is a hollow muscular sac located in the midline at the floor of the pelvic cavity. It can hold as much as 700-1000 ml of urine without injury. As it distends, it rises into the abdominal cavity. The tube leading from

the bladder to the exterior is the *urethra*. This tube is about one and a half inches long in the female and about eight inches long in the male as it passes through the penis.

kidney (nephr/o)	renal pelvis (pyle/o)
bladder (cyst/o)	ureter (ureter/o)
urethra (urethr/o)	urine (ur/o)

89.

Let's go on to a new but related area of the body. Here is a brief summary of the functions of each part of the urinary tract.

kidney:	forms urine;
renal pelvis:	collects urine in the kidney;
ureter:	carries urine to the bladder;
bladder:	stores urine until voiding;
urethra:	discharges urine from the body.

90.

The urinary system is responsible for making urine from waste materials in the blood and carrying urine from the body. What is the word root for urine? _____. What is the combining form? _____.

ur
ur/o

91.

Pyel/o is the combining form that refers to the _____.

renal pelvis

92.

Taking what you need from the combining form for renal pelvis, form a term meaning inflammation of the renal pelvis,

pyel/itis
pyelitis
pī ə lī' tis

_____ / _____;

surgical repair of the renal pelvis,

pyel/o/plasty
pyeloplasty
pī' e lō plas tē

_____ / _____ / _____.

93.

Pyel/o/nephr/osis means _____

_____.

abnormal condition of
the renal pelvis and
kidney

Form a term that means inflammation of the renal pelvis and kidney:

pyel/o/nephr/itis
pyelonephritis
pī' lō nef rī' tis

_____ / _____ / _____ / _____.

stone or calculus in the ureter 94.
 Look at Illustrations 4.6 & 4.7. Ureter/o/lith means _____
 _____.

ureter/o/lith/otomy ureterolithotomy
 Form a term that means incision into the ureter (for removal of a stone):
 _____ / _____ / _____ / _____.
 ureter calculus incision into

surgical repair of the ureter and renal pelvis 95.
 Ureter/o/pyel/o/plasty means _____

 _____.

ureter/o/pyel/itis ureteropyelitis
 yōō rē' ter ō pī ə lī' tis 96.
 Form a term meaning inflammation of the ureter and renal pelvis,
 _____ / _____ / _____ / _____.

ureter/o/cyst/ostomy ureterocystostomy
 yōō rē' ter ō sis tos' tō mē 97.
 Form a term that means making a permanent opening between the ureter and bladder,
 _____ / _____ / _____ / _____.
 ureter bladder permanent opening

ureter/orrhaphy ureterorrhaphy
 yer rē ter ōr' ə fē 98.
Orrhaphy is not really a suffix, but again (for simplification) it can be used as one. *Orrhaphy* means suturing or stitching (for the purpose of repair, especially after trauma).

Form a word meaning suturing of the ureter,
 _____ / _____;

neph/orrhaphy nephorrhaphy
 nef rôr' ə fē suturing of a kidney,
 _____ / _____;

cyst/orrhaphy cystorrhaphy
 sis tôr' ə fē suturing the bladder,
 _____ / _____;

neur/orrhaphy neurorrhaphy
 nyōō rôr' ə fē suturing of a nerve,
 _____ / _____.

103.

Let's have a brief review. Select the correct word root or suffix from List B. Write your selection in the space provided in List A.

<p>cyst/o- aneurysm ureter/o- anomaly pyel/o- urethr/o- neur/o- hernia ur/o- nephr/o- -plasty -ptosis -pexy -lith -orrhaphy -ostomy -orrhagia -spasm</p>	<p>LIST A stores urine until voiding _____ ballooning-out vessel _____ carries urine to bladder _____ contrary to the rule, irregular _____ collects urine in the kidney _____ discharges urine from body _____ nerve _____ protrusion through cavity wall _____ urine _____ forms urine _____ surgical repair (make new) _____ drooping, prolapse _____ fixing in place _____ stone, calculus _____ suturing to repair _____ permanent opening _____ hemorrhage _____ twitching, muscle cramp _____</p>	<p>LIST B nephr/o- pyel/o- urethr/o- ur/o- ureter/o- cyst/o- aneurysm anomaly hernia neur/o- -lith -plasty -ptosis -orrhaphy -orrhagia -ostomy -spasm -pexy</p>
--	--	---

104.

Build a word for each of the following definitions.

<p>pyelo/nephr/osis uretero/lith/otomy nephro/ptosis ur/ology ureter/orrhaphy nephro/plasty cyst/orrhagia nephro/pexy</p>	<p>diseased condition of renal pelvis and kidney _____ / _____ / _____ incision to remove calculus from ureter _____ / _____ / _____ sagging of the kidney _____ / _____ the study of urine and the urinary system _____ / _____ suturing, reconnection of the ureter _____ / _____ repair (make new) the kidney _____ / _____ hemorrhage from the urinary bladder _____ / _____ surgical fixing of the kidney in its place _____ / _____</p>
--	--

105.

Following are 50 of the medical terms you formed in Unit 4. Pronounce each one aloud and spell it on paper.

aneurysm (an'yōō rizm)	myosclerosis (mī ō skler ō' sis)
angioblast (an' jē ō blast)	myospasm (mī' ō spa zm)
angiosclerosis (an' jē ō sklə rō' sis)	nephritis (nef rī'tis)
anomaly (an om' ə lē)	nephrolith (nef' rō lith)
apnea (ap' nē ə)	nephromegaly (nef' rō meg ə lē)
arteriosclerosis (ar ter' ē ō skler ō' sis)	nephroptosis (nef rop tō' sis)
arteriospasm (ar ter' ē ō spa' zm)	neurofibroma (nyōō' rō fī brō' mā)
bradycardia (brad ē kār' dē ə)	neurolysis (nyōō rol' ə sis)
bradypnea (brad ip nē' ə)	o-oblast (ō' ō blast)
colporrhaphy (kōl pōr' ə fē)	oophoropexy (ōō' fōr ō pek' sē)
colposcopy (kōl pōs' kō pē)	orchidotomy (or kid ot' ō mē)
cryptorchidism (krip' ōr kid ism)	pyelitis (pī ə lī' tis)
cystorrhagia (sis tō rā jē ə)	pyeloplasty (pī' ə lō plas tē)
dysmenorrhea (dis' men ōr rē' ə)	salpingectomy (sal pin jek' tō mē)
dyspepsia (dis pep' sē ə)	salpingo-oophorectomy (sal pin' gō ōō fōr ek' tō mē)
dyspnea (disp' nē ə)	salpingoscopy (sal pin gos' kō pē)
hemangiitis (hē man jē ī' tis)	spermatoblast (sper mat' ō blast)
hematologist (hē mā tol' ō jist)	spermatoid (sper' ma toid)
hemolysis (hē mol' ə sis)	tachycardia (tak ə kār' dē ə)
hernia (her' nē ə)	tachypnea (tak ip nē' ə)
hysteropexy (his' ter ō peks' ē)	ureterolithotomy (yer rē' ter ō lith ot' ō mē)
hysterospasm (his' ter ō spa zm)	ureterorrhaphy (yer rē ter ōr' ə fē)
hysterotomy (his ter ot' ō mē)	ureterotomy (yer ē ter ot' ə mē)
kinesialgia (kin ē' sē al' jē ə)	urethralgia (yer ə thral' jē ə)
kinesiology (kin ē' sē ol' ə jē)	urethrotomy (yer e throt' ə mē)

Complete the Unit 4 Self-Test before going to the next unit.

Unit 4 Self-Test**Part 1**

From the list on the right, select the correct meaning for each of the following terms:

- | | |
|-------------------------|--|
| _____ 1. Urethrospasm | a. The study (or science) of motion |
| _____ 2. Spermatoid | b. A condition of hardening of vessels |
| _____ 3. Nephroptosis | c. Spasm of the urethra |
| _____ 4. Anomaly | d. Destruction of blood (cells) |
| _____ 5. Oophoropexy | e. Abnormally slow breathing |
| _____ 6. Bradypnea | f. Surgical fixation of the ovary in its place |
| _____ 7. Angioblast | g. Tumor of nerve and fibrous tissue |
| _____ 8. Ureterotomy | h. Muscle spasm |
| _____ 9. Angiosclerosis | i. Structure contrary to the rule |
| _____ 10. Hysterotomy | j. Resembling sperm |
| _____ 11. Myospasm | k. Abnormally enlarged kidney |
| _____ 12. Dyspepsia | l. Ballooning out of blood vessel |
| _____ 13. Hemolysis | m. Painful menstruation (cramps) |
| _____ 14. Kinesiology | n. Vessel germ cell |
| _____ 15. Aneurysm | o. Kidney out of its normal place (dropped kidney) |
| | p. Incision into the uterus (cesarean section) |
| | q. Painful digestion (heartburn) |
| | r. Incision into the ureter |

Part 2

Complete each of the medical terms on the right with the appropriate missing part:

- | | |
|---|------------------|
| 1. A condition of hardening of muscle | _____ sclerosis |
| 2. Kidney stone | Nephro _____ |
| 3. Abnormally fast breathing | Tachy _____ |
| 4. Painful menstruation | _____ menorrhoea |
| 5. Spasm of the uterus | _____ spasm |
| 6. Cessation of menses | A _____ |
| 7. Hemorrhage (bleeding) from the bladder | _____ orrhagia |
| 8. Surgical removal of the ovary | _____ ectomy |
| 9. Incision into the ureter (for the purpose of removing a stone) | _____ lithotomy |
| 10. Surgical removal of the fallopian tube | _____ ectomy |
| 11. Drooping of an organ | P _____ |
| 12. Pain due to motion | _____ algia |
| 13. Spasm of the vessels | _____ spasm |
| 14. Protrusion of an organ through a cavity wall | H _____ |
| 15. Incision into the urethra | _____ otomy |

ANSWERS

Part 1

1. c
2. j
3. o
4. i
5. f
6. e
7. n
8. r
9. b

Part 2

1. Myosclerosis
2. Nephrolith
3. Tachypnea
4. Dysmenorrhoea
5. Hysterospasm
6. Amenorrhoea
7. Cystorrhagia
8. Oophorectomy
9. Ureterolithotomy

- | | |
|-------|-------------------|
| 10. p | 10. Salpingectomy |
| 11. h | 11. Ptosis |
| 12. q | 12. Kinesialgia |
| 13. d | 13. Angiospasm |
| 14. a | 14. Hernia |
| 15. l | 15. Urethrotomy |

5 The Gastrointestinal Tract

In Unit 5 you'll make more than 50 new medical terms. Most of the learning material focuses on terms relating to the gastrointestinal tract. Two illustrations provide information you'll need as you work through the learning sequences and exercises. Be sure to bookmark those illustrations and keep them handy. Use them often.

Mini-Glossary

cheil/o (lip, lips)

col/o (colon)

dent/o (teeth)

esophag/o (esophagus)

gingiv/o (gums)

gloss/o (tongue)

hepat/o (liver)

pancreat/o (pancreas)

proct/o (anus and rectum)

rect/o (rectum)

stomat/o (mouth)

-clysis (irrigation)

-ectasia (dilation, stretching)

-scope, -scopy (look, examine)

-toxin (poison)

Take a few minutes to complete the Review Sheet for Unit 4 before you begin Unit 5.

1.

You're going to begin this section with a review of suffixes you have already studied and used.

Write the meaning of each of the following:

of, or pertaining to
 surgical repair, make
 new, restore
 inflammation of
 twitching, cramping
 pain, ache
 under, beneath
 excessive, too much
 surgical excision of
 incision into
 bursting forth,
 hemorrhage
 a noun ending meaning
 condition, condition
 of
 abnormal condition,
 diseased condition

-ic, -as, -ar _____
 -plasty _____
 -itis _____
 -spasm _____
 -algia _____
 -hypo _____
 -hyper _____
 -ectomy _____
 -otomy _____
 -orrhagia _____
 -a, -ia _____
 -osis _____

2.

This time, write the suffix that satisfies each of the definitions given. Then go back to the last frame to check your answers.

MEANING

SUFFIX

pain, ache	_____
excessive, too much	_____
surgical incision into	_____
inflammation of	_____
under, beneath	_____
twitching, cramping	_____
surgical excision of	_____
bursting forth, hemorrhage	_____
of, or pertaining to	_____
an ending meaning condition	_____
abnormal (diseased) condition	_____

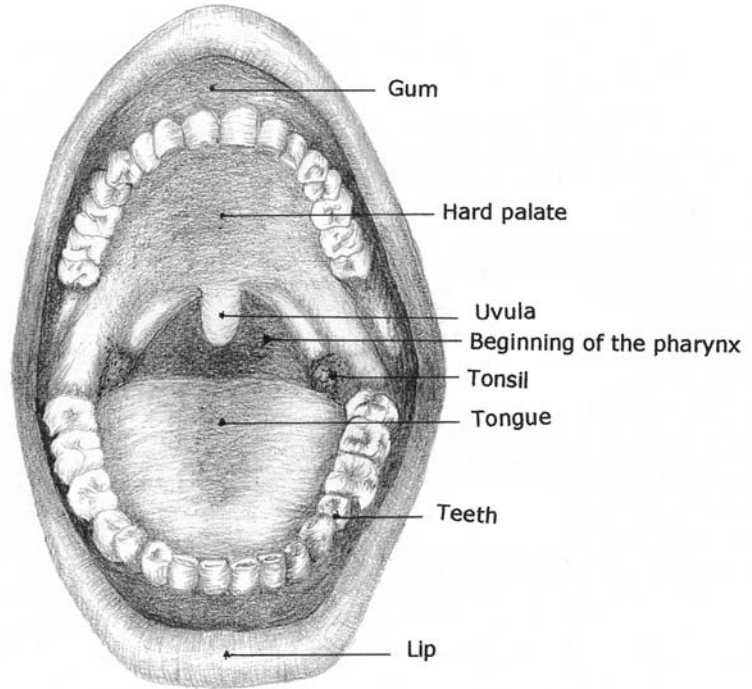


Figure 5.1 The Oral Cavity

The digestive tract begins at the mouth, the oral cavity. The human mouth is concerned with vocalization as well as mastication and swallowing. The anterior portion includes lips, teeth, gums, a muscular tongue, related muscles, salivary glands, a bony palate, and muscles of the cheek wall. All are concerned with wetting, macerating and pulverizing ingested material. The posterior portion of the oral cavity includes the soft palate, tongue, tonsils, and taste-buds.

mouth (stomat/o)
tongue (gloss/o)

lip (cheil/o)
gum (gingiv/o)
tooth (dent/o)

stomat
stomat/o

3. The word root for mouth is _____.
The combining form is _____ / _____.

inflammation of the
mouth

4. Stomat/itis means _____.

surgical repair or reconstruction of the mouth

Stomat/o/plast/y means _____
_____.

stomat/algia
stomatalgia
stō mā tal' jē ə

5.
Using the word root for mouth, form a word meaning painful mouth, _____ / _____;

stomat/orrhagia
stomatorrhagia
stō mat' ō rā' jē ə

hemorrhage of the mouth,
_____ / _____.
mouth hemorrhage

painful tongue
excision of the tongue
spasm or twitching of the tongue

6.
Refer to Illustration 5.1.
Gloss/algia means _____.
Gloss/ectomy means _____.
Gloss/o/spasm means _____.

gloss/itis
glossitis
glos ī' tis
gloss/al
glossal
glos' əl

7.
Using the word root, build a term meaning inflammation of the tongue, _____ / _____;
pertaining to the tongue, _____ / _____

hypo/gloss/al
hypoglossal
hī' pō glos' əl

8.
What word would you use to describe a medication that is administered under the tongue?
_____ / _____ / _____
under tongue pertaining to

cheil
cheil/o
kē' lō

9.
Go back to Illustration 5.1. The word root for lip is _____.
The combining form for lip is _____ / _____.

inflammation of the lips

10.
Cheil/itis means _____
_____.

plastic surgery of the lips

Cheil/o/plast/y means _____
_____.

cheil/otomy cheilotomy kē lot' ō mē	11. Build a term meaning incision into the lips, _____ / _____;
cheil/osis cheilosis kē lō' sis	abnormal condition or diseased condition of the lips, _____ / _____.
cheil/o/stomat/o/plasty cheilostomatoplasty kē' lō stō mat' ō plas tē	12. Now, build a term meaning plastic surgery of the lips and mouth _____ / _____ / _____ / _____ / _____. lip mouth repair
gingiv/o of or pertaining to gums	13. The combining form for gums is _____ / _____. Gingival means _____.
gingiv/itis gingivitis jin jī vī' tis gingiv/algia gingivalgia jin jī val' jē ə gingiv/ectomy gingivectomy jin jī vek' tē mē gingiv/o/gloss/itis gingivoglossitis jin' jī vō glos ī' tis	14. Build a term meaning inflammation of the gums, _____ / _____; painful gums, _____ / _____; excision of gum tissue, _____ / _____; inflammation of the gums and tongue, _____ / _____ / _____ / _____.
inflammation of the gums surgical excision of the tongue toothache plastic surgery, repair of the lips hemorrhage of the mouth	15. Here's a quick review. Without referring to the tables, write a meaning for each of the following. gingivitis _____ glossectomy _____ dentalgia _____ cheiloplasty _____ stomatorrhagia _____

16.

Using the suggested word roots, make a medical term that fits each definition below.

Some suggested root words

stomat-
cheil-
gingiv-
gloss-
dent-

glossitis
cheilosis
dentalgia
stomatoplasty
gingivectomy

inflammation of the tongue _____
abnormal, diseased condition of the lips _____
toothache _____
plastic surgery, repair of the mouth _____
surgical excision of gum tissue _____

Take a break. You deserve it.

17.

Again, you will use many suffixes you are already familiar with. Here's an opportunity to refresh your memory. See how many you can correctly define. Write your answers in the space provided.

puncture of cavity, to
withdraw fluid
incision into
form a new (permanent)
opening
study of
surgical fixation of a
part in its normal
place
hernia, herniation
calculus, stone
large, enlarged

-centesis _____
-otomy _____
-ostomy _____
-ology _____
-pexy _____
-cele _____
-lith _____
-megaly _____

18.

Now, complete Table 3 below. You will use it in the next few frames. Write the suffix that satisfies the definition given. Check your answers in the last frame.

Table 3

Meaning	Suffix
calculus, stone	- _____
surgical fixation of a part in place	- _____
incision into	- _____
study of	- _____
hernia, herniation	- _____
large, enlarged	- _____
form a new opening (permanent)	- _____
puncture a cavity and draw fluid	- _____

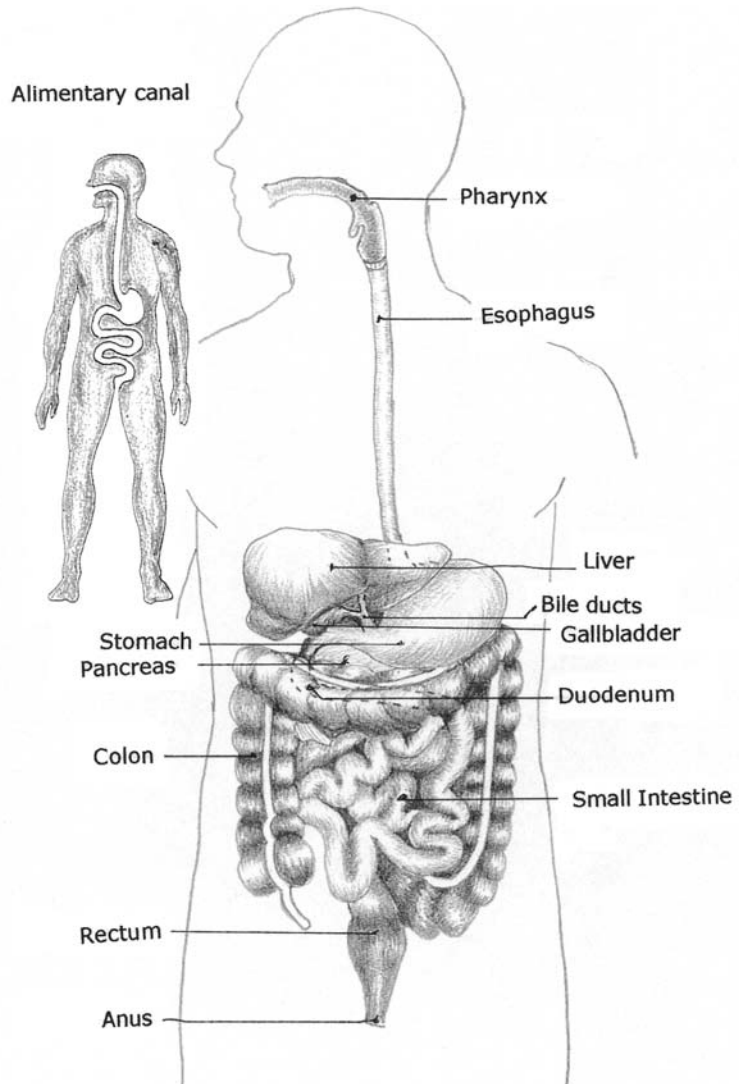


Figure 5.2 The Digestive Tract

The function of the digestive system is to break down large food particles into smaller ones that can pass across the membranes of cells and be absorbed. The Digestive Tract, also known as the *alimentary canal* consists of a single long tube extending from mouth to anus and opened to the exterior at each end. The canal begins with

the oral cavity. Here the teeth pulverize ingested food. Meanwhile it is softened and partly digested by salivary gland secretions. The tongue aids in mechanical manipulation of the food and literally flips the food into the fibromuscular *pharynx* during swallowing. The *esophagus* moves the food bolus along to the pouch-like *stomach* by peristaltic muscular contractions. Here the food mixes with acid and protein-digesting enzymes and is retained until digested further. Passing from the stomach, the food enters the first part of the small intestine called the *duodenum*. Liver-produced bile, stored in the *gallbladder*, is discharged into the duodenum by *bile ducts*. Digestive enzymes from the *pancreas* enter the duodenum as well. The food bolus continues through the highly coiled 20-foot-long *small intestine*. A great portion of the abdominal cavity is taken up by the many folds and twists of this organ. Small molecular nutrients are extracted and absorbed by cells lining the intestine. These nutrients absorbed throughout the tract are transferred to capillaries and transported to the *liver* by the hepatic portal system for processing and distribution to the body's cells. The *colon* or large intestine can be seen ascending along the anatomical right side, passing across the midline then turning and descending along the left. This organ is mainly concerned with absorption of water, minerals, and certain vitamins. The non-nutritive residue of the ingested food is compacted and moved through the *rectum* and *anal canal* to the outside.

liver (hepat/o)	stomach (gastr/o)
pharynx (pharyng/o)	gallbladder (cholecyst/o)
esophagus (esophag/o)	duodenum (duoden/o)
intestine (enter/o)	colon (col/o)
rectum and anus (proct/o)	pancreas (pancreat/o)
rectum (rect/o)	anus (an/o)

19.
Here are some easy ones. Gastr/orrhagia means _____
stomach hemorrhage
Gastritis means _____
inflammation of the
stomach
Gastric means _____
of, or pertaining to the
stomach

20.
Here are some new suffixes.

-ectasia means dilation, stretching, or expansion
-clysis means irrigation, or washing out
-toxin means poison, or poisoning

Use Illustration 5.2 and write a meaning for the following medical terms.

poisoning of the small
intestine enter/o/toxin _____
stretching, dilation of
the small intestine enter/ectasia _____
irrigation, washing out
of the small intestine enter/o/clysis _____

21.
What do you think col/o/clysis means? _____
washing, irrigation of
the colon
What does gastr/ectasia mean? _____
dilation, stretching, or
expanding of the
stomach

22.
Use Illustration 5.2 as you need to, and try these.
col/o/pexy means _____
a surgical procedure to
fix the colon in its
normal place
enter/o/cele means _____
herniation of the small
intestine
col/ostomy means _____
a surgical procedure
to make a new
(permanent) opening
into the colon

- gastr/o/enter/ostomy
gastroenterostomy
gas' trō en ter os' tō mē
- gastr/o/enter/ic
gastroenteric
gas' trō en ter' ik
- enter/o/clysis
enteroclysis
en ter ok' li sis
- enter/ectasia
enterectasia
en' ter ek tā' jē ə
- poisoning of the small intestine
- puncture of the small intestine, draw fluid
- intestinal hernia
- pertaining to the colon or large intestine
- puncture of the colon, draw fluid
- making a new opening into the colon (permanent)
- col/o/pexy
colopexy
kō' lō pek sē
23.
Form a term describing a surgical procedure that forms a new opening between the stomach and small intestine,
_____ / _____ / _____ / _____;
- pertaining to the stomach and small intestine,
_____ / _____ / _____ / _____.
24.
Refer to Illustration 5.2 again. Build a term meaning washing or irrigation of the small intestine,
_____ / _____ / _____;
- dilation of the small intestine,
_____ / _____.
25.
What do the following terms mean?
- Enter/o/toxin _____
_____.
- Enter/o/centesis _____
_____.
- Enter/o/cele _____
_____.
26.
Try these.
- Col/ic _____
_____.
- Col/o/centesis _____
_____.
- Col/ostomy _____
_____.
27.
Build a term meaning surgical fixation of the colon,
_____ / _____ / _____;

col/o/clysis
 coloclysis
 kō lok' li sis

washing or irrigation of the colon,
 _____ / _____ / _____;

col/itis
 colitis
 kō lī' tis

inflammation of the colon, _____ / _____.

rect/o

28.
 Refer to Illustration 5.2 again. The combining form for rectum is
 _____ / _____.

pertaining to the
 rectum

What do each of the following mean?
 Rect/al _____
 _____.

a rectal hernia

Rect/o/cele _____
 _____.

washing or irrigation of
 the rectum (enema)

Rect/o/clysis _____
 _____.

rect/o/colitis
 rectocolitis
 rek' tō kō li' tis
 rect/o/cyst/otomy
 rectocystotomy
 rek' tō sis tot' ə mē

29.
 Build a word meaning inflammation of the rectum and colon,
 _____ / _____ / _____;
 incision of the bladder through the rectum,
 _____ / _____ / _____ / _____
 rectum bladder incision into

specializes in diseases of
 the anus and rectum

30.
 Proctology is the study of diseases of the anus and rectum. A
 proct/o/log/ist is one who _____
 _____.

proct/o/clysis
 proctoclysis (enema)
 prok tok' li sis

31.
 Build a word meaning washing or irrigation of anus and rectum,
 _____ / _____ / _____;
 Pronounce that one several times.

instrument for
 examining the anus
 and rectum
 prok' tə skōp

32.
 Write a meaning for each of the following:
 proct/o/scope _____

 _____.

examination of the
anus and rectum
prok tos' kō pē

proct/o/scopy _____
_____.

33.

Back to Illustration 5.2. What is the combining form for liver?

hepat/o _____.

pertaining to the liver Hepat/ic means _____.

an abnormal condition
of enlargement of
the liver Hepatomegaly means _____.

hepat/o/scop/y
hepatoscopy
hep ə tos' kō pē

34.
Build a word meaning inspection (examination) of the liver,
_____ / _____ / _____ / _____;

hepat/otomy
hepatotomy
hep ə tot' ō mē

incision into the liver,
_____ / _____;

hepat/itis
hepatitis
hep ə tī' tis

inflammation of the liver,
_____ / _____.

35.

Here's another new term. Pancreat/ic means _____.

pertaining to the
pancreas

Underline the part of the term that means dissolution or destruction.

pancreat/o/lysis Pancreat/o/lys/is

36.

Build a word meaning a stone or calculus in the pancreas,

pancreat/o/lith
pancreatolith
pan krē at' ə lith

_____ / _____ / _____;
pancreas stone

inflammation of the pancreas,
_____ / _____;

pancreat/itis
pancreatitis
pan krē a tī' tis

pancreat/ectomy
pancreatectomy
pan krē a tek' tō mē

excision of part or all of the pancreas,
_____ / _____;

incision into the pancreas,
_____ / _____.

pancreat/otomy
pancreatotomy
pan krē a tot' ə mē

esophag/o/duoden/
ostomy
esophagoduodenostomy
ē sof' ə gō dōō' ō den
os' tō mē

37.
When an entire gastrectomy is performed, a new connection (opening) is formed between the esophagus and duodenum. This is called an _____ / _____ / _____ / _____.

(Note: Remember to name the anatomical parts in the order in which food passes through them.)

gastr/o/enter/o/col/
ostomy

38.
As you rewrite each of the following, analyze it (make your own diagonal divisions) and pronounce it to yourself:
gastroenterocolostomy,
_____;

esophag/o/gastr/
ostomy

esophagogastrostomy,
_____;

enter/o/chol/e/cyst/
ostomy

enterocholecystostomy,
_____.

proct/ectasia

39.
Try it again:
Proctectasia,
_____;

duoden/o/chol/e/cyst/
ostomy

duodenocholecystostomy,
_____;

esophag/o/gastr/o/
scopy

esophagogastroscopy,
_____.

40.
Let's review what you just covered. Using the suggested answers, write the meaning of each of the following terms.

SUGGESTED ANSWERS:

- | | | |
|-----------|----------|-----------------|
| colon | lips | rectum |
| duodenum | liver | anus and rectum |
| esophagus | mouth | small intestine |
| gums | pancreas | tongue |
| stomach | | |

rectum
colon
pancreas

rect/o _____
col/o _____
pancreat/o _____

rectum and anus	proct/o _____
lips	cheil/o _____
mouth	stomat/o _____
small intestine	enter/o _____
esophagus	esophag/o _____
gums	gingiv/o _____
tongue	gloss/o _____
liver	hepat/o _____
duodenum	duoden/o _____
stomach	gastr/o _____

41.
Try these.

SUGGESTED ANSWERS

make a new opening	stretching
poison	irrigation
look, examine	

irrigation	-clysis _____
look, examine	-scope, -scopy _____
make a new opening	-ostomy _____
stretching	-ectasia _____
poison	-toxin _____

42.

Here's what we suggest:
In your own words, write the meaning of each of the following medical terms.

a new opening between the esophagus and duodenum
esophag/o/duoden/ostomy

inspection of the anus and rectum (with an instrument)
proct/oscopy

plastic surgery of the lips
cheil/o/plasty

stretching of the esophagus
esophag/o/ectasia

110 QUICK MEDICAL TERMINOLOGY

irrigation of the anus
and rectum (and
lower colon; enema)

proct/o/clysis

pain of the stomach
and intestine

gastr/o/enter/algia

incision into the
pancreas

pancreat/otomy

tumor of the mouth

stomat/oma

spasm of the tongue

gloss/o/spasm

43.

Here are 25 medical terms for practicing your pronunciation. Say the term aloud and then say what it means. Then take the Unit 5 Self-Test.

cheilitis (kē lī' tis)

cheiloplasty (kē' lō plas tē)

colic (kol' ik)

colitis (kō lī' tis)

colostomy (kō los' tō mē)

dentalgia (den tal' jē ə)

enterocele (en' ter ō sēl)

enteroclysis (en ter ok' li sis)

enterotoxin (en' ter ō tox in)

esophagogastroscopy

(ē sof' ə gō gas tros' kō pē)

gastrextasia (gas trek tā' zhə)

gastrorrhagia (gas' trō rā' jē ə)

gingivectomy

(jin ji vek' tō mē)

gingivoglossitis

(jin' ji vō glos ī' tis)

glossospasm (glos' ō spa zm)

hepatitis (hep a tī' tis)

hepatomegaly (hep a tō meg' a lē)

hepatorrhagia (hep a tō rā' jē a)

hypoglossal (hī' pō glos' əl)

pancreatectomy

(pan krē a tek' tō mē)

proctoclysis (prok tok' li sis)

proctoscopy (prok tos' kō pē)

rectal (rek' t'l)

stomatitis (stō mǎ tī' tis)

stomatorrhagia (stō mǎt ō rā' jē ə)

Unit 5 Self-Test**Part 1**

From the list on the right, select the correct meaning for each of the following often used medical terms.

- | | |
|-------------------------|---|
| _____ 1. Proctoclysis | a. Make a new opening in the colon |
| _____ 2. Stomatoplasty | b. Abnormal enlargement of the liver |
| _____ 3. Hepatectomy | c. Of or pertaining to teeth |
| _____ 4. Stomatorrhagia | d. Intestinal poisoning |
| _____ 5. Colic | e. Stretching, dilation of the stomach |
| _____ 6. Enteroclysis | f. Spasm of the tongue |
| _____ 7. Glossospasm | g. Hemorrhage of the mouth |
| _____ 8. Dental | h. Irrigation of the rectum and anus |
| _____ 9. Enterotoxin | i. Plastic surgery of the mouth |
| _____ 10. Cheilitis | j. Relating to the colon |
| _____ 11. Colostomy | k. Plastic surgery of the lips |
| _____ 12. Gastrectasia | l. Irrigation of the intestine |
| _____ 13. Cheiloplasty | m. Surgical removal of (part of) the liver |
| _____ 14. Hepatomegaly | n. Examination (looking into) the rectum through the anus with an endoscope |
| _____ 15. Proctoscopy | o. Inflammation of the lips |

Part 2

Complete each of the medical terms on the right with the appropriate terms.

1. Under the tongue _____
2. Surgical removal of the pancreas _____
3. Hemorrhage of the mouth _____
4. Inflammation of the lips _____
5. Enlarged liver _____
6. Stretching or dilation of the stomach _____
7. Spasm of the tongue _____
8. Plastic surgery of the lips _____
9. Intestinal hernia _____
10. Inflammation of the liver _____
11. Instrument for examining the rectum and anus _____
12. Pertaining to the rectum _____
13. Formation of a new opening in the colon _____
14. Painful tongue _____
15. Irrigation of the rectum and anus _____

ANSWERS**Part 1**

1. h
2. i
3. m
4. g
5. j
6. l
7. f
8. c
9. d
10. o

Part 2

1. Hypoglossal
2. Pancreatectomy
3. Stomatorrhagia
4. Cheilitis
5. Hepatomegaly
6. Gastrectasia
7. Glossospasm
8. Cheiloplasty
9. Enterocele
10. Hepatitis

- | | |
|-------|------------------|
| 11. a | 11. Proctoscope |
| 12. e | 12. Rectal |
| 13. k | 13. Colostomy |
| 14. b | 14. Glossalgia |
| 15. n | 15. Proctoclysis |

6 The Heart

Unit 6 focuses on the gross anatomy of the heart and how the heart works. You'll create terms relating to abnormal conditions of the heart, and its abnormal functions. You'll also cover some new prefixes and suffixes as shown below.

Mini-Glossary

algesia (sense of pain)

angi/o (vessel)

arteri/o (artery)

cardiac arrest (stopped heart)

dactyl/o (fingers)

defibrillation (heart shocked
to a regular heartbeat)

embolism (obstruction of a
blood vessel)

embolus (foreign particle
in the bloodstream)

esthesia (feeling, sensation)

fibrillation (very fast,
irregular heartbeat)

a-, an- (absent, without)

dys- (bad, difficult, painful)

-emia (blood)

macro- (large)

micro- (small, very small)

myel/o (spinal cord, bone marrow)

phas/o (speech)

phleb/o (vein)

plas/o (formation)

thrombosis (bloodclot occluding a vessel)

thrombus (a blood clot)

poly- (many)

sym-, syn- (together)

-orrhexis (rupture, bursting apart)

-tripsy (rubbing, crushing)

Before you begin Unit 6, take the time to complete the Review Sheet for Unit 5. It will refresh your memory of the terms and word parts you studied. Find out how much you've learned.

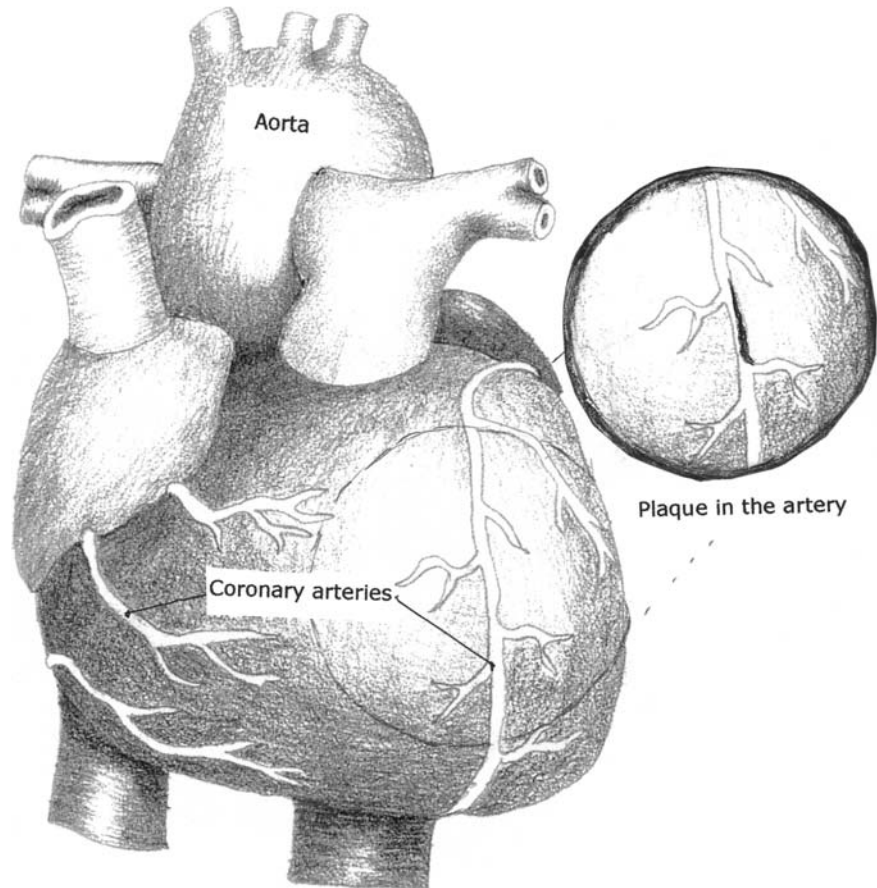


Figure 6.1. Coronary Arteries—Nourishment to the Heart

The *heart* is the pump of the circulatory system. It is about the size of a fist. It's hollow and cone-shaped, with its apex at the bottom. The heart uses arteries to deliver oxygen-rich blood to the cells, tissues, and organs. Oxygen-depleted blood returns to the heart via the veins. The heart then pumps oxygen-deficient blood to the lungs where it becomes oxygen-enriched and returns to the heart for another circulatory round.

The *coronary arteries* are so-named because they form an upside down "crown" on the surface of the heart. Both left and right arteries arise from small openings in the *aorta* just beyond the left side of

the heart. The two main arteries form many branches and terminate in multitudes of tiny arteries that pass into the heart muscle and supply it with oxygen and nutrients.

Atherosclerotic plaque within the coronary artery may reduce blood flow and cause insufficient oxygen to reach the heart muscle. This condition often induces sharp, crushing chest pain. *Coronary thrombosis* means the coronary vessel may be occluded. Consequently, if the heart muscle is severely damaged, *fibrillation* may occur, and/or *cardiac arrest* may follow.

1.

Let's try something different. Some terms referring to abnormal conditions of the heart or blood vessels can be confusing. Read each definition carefully and select the terms that refer to a condition or procedure involving only the heart. Put an X in the box.

thrombus

coronary thrombosis

embolus

embolism

cardiac arrest

fibrillation

defibrillation

Thrombus is a circulating blood clot.

Coronary thrombosis is a heart attack caused by a blood clot that occludes (closes off) a coronary vessel of the heart.

Embolus is a foreign or abnormal particle circulating in the blood, such as a bubble of air, a blood clot, or cholesterol plaque.

Embolism is the sudden obstruction of a blood vessel by an embolus.

Cardiac arrest is the complete cessation of heart function. (If the heartbeat cannot be restored, the patient dies.)

Fibrillation means very fast and irregular heartbeat.

Defibrillation means using an electrical spark to shock the heart and bring about a slower and regular heartbeat.

Now review the terms and their meanings again. This time *circle* each term that refers to a condition of the blood or blood vessels.

2.

Try these. A blood clot floating through the blood stream is known as a *thrombus*. When a blood clot occludes a vessel, the condition is called *thrombosis*. The part of the word meaning abnormal or diseased condition is _____.

-osis

3.

Refer to the definitions in Frame 1. An embolus is any foreign or abnormal particle circulating in the blood, such as an air bubble, a cholesterol deposit, or even a blood clot. Embolism is the condition caused by an _____.

embolus
em' bō lus

thrombus
throm' bus
embolus

A circulating blood clot is a _____. But any foreign particle (including a blood clot) circulating through the blood-stream is an _____.

embol (ism) em' bō lizm	4. When a vessel is suddenly occluded by an embolus, the resulting condition is known as an _____ism.
thromb (osis) throm bō' sis	When a sudden vessel occlusion is caused by a thrombus, the resulting condition is a _____osis.
thrombosis	A blood clot occluding a coronary (heart) vessel is a condition called coronary _____.
embolus	5. Embolism is caused by a/an _____.
thrombus	Thrombosis is caused by a/an _____.
coronary thrombosis	6. A sudden blocking or occlusion of the coronary vessel of the heart by a blood clot is a/an _____.
<u>defibrillation</u> dē fib ri lā' shun	7. Cardiac fibrillation may result from coronary thrombosis. The heart beats 200 to 400 times a minute and is very irregular. If something is not done quickly, fibrillation will exhaust the heart and it will stop beating altogether. On the other hand, using an electrical spark to shock the heart and bring about a slower and regular heartbeat may result in <i>defibrillation</i> . Underline the term that indicates the better outcome: cardiac arrest / defibrillation
cardiac arrest	8. A very fast, irregular heartbeat, left unchecked, may lead to a complete cessation of heart functioning known as _____.
defibrillation	9. A very fast, irregular heartbeat is called fibrillation. Using an electrical spark to shock the heart and bring about a regular heartbeat is called _____.

10.

Write the correct term for each of the following definitions:

thrombus	a blood clot floating through the bloodstream, _____;
defibrillation	using an electrical spark to shock the heart and restore a regular heartbeat, _____;
cardiac arrest	complete cessation of heart functioning, _____ _____;
fibrillation	a very fast, irregular heartbeat, _____;
embolism	sudden blocking or occlusion of a vessel by something that floated in the bloodstream, _____;
coronary thrombosis	sudden blocking of the coronary vessel by a blood clot, _____ _____.

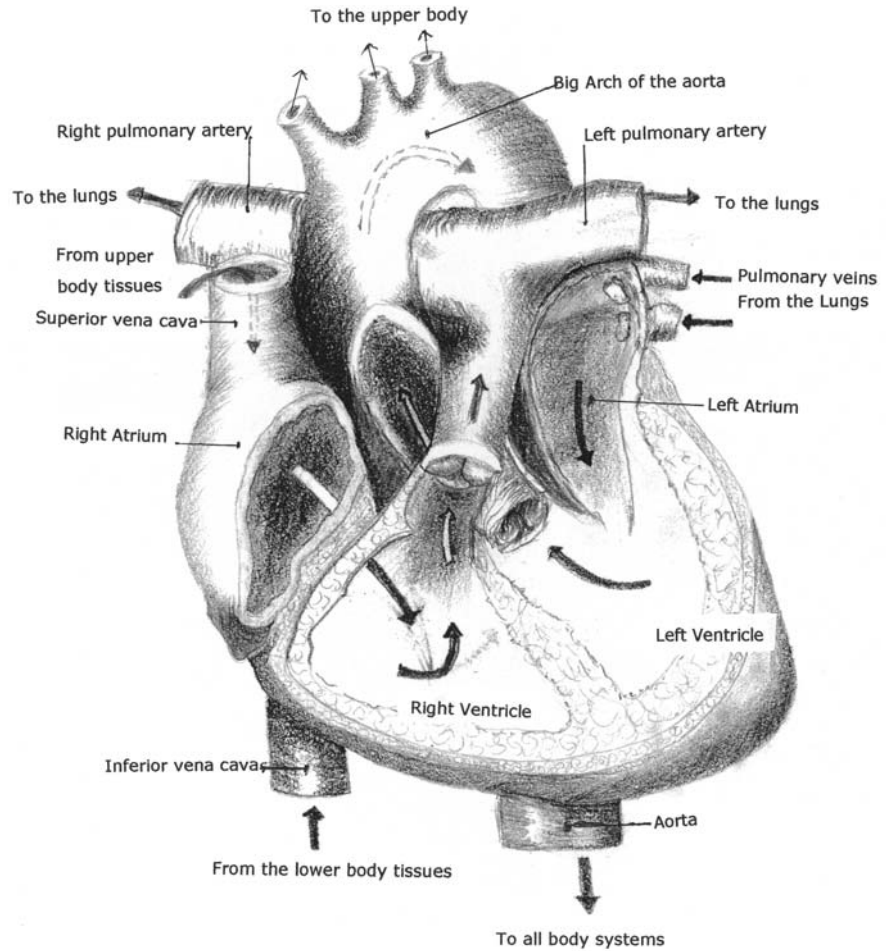


Figure 6.2 The Cardiovascular System

The *heart* is the muscular pump of the cardiovascular system. It pumps blood to the lungs and body systems and receives blood back for recirculation. Each day, the heart beats about 100,000 times at a rate of approximately 70 beats per minute.

The heart contains four cavities, or chambers: two on the right side (pulmonary heart), two on the left (systemic heart). Pulmonary circulation carries blood to and from the lungs. The systemic circulation supplies oxygen- and nutrient-rich blood to the body cells, tissues, and organs. After completing the systemic circuit, all blood returns to the heart through the two main veins, the *superior vena cava* and the *inferior vena cava*.

These vena cavae meet at the *right atrium*, a thin-walled chamber that serves as a collecting station. From the right atrium, the

15.
Thromb/o is the combining form that means clot.
Thromb/o/angi/itis means inflammation of a vessel with formation of a _____.
- clot
16.
Thromb/ectomy means _____.
- excision of a thrombus
(clot)
17.
Thromb/o/phleb/itis means _____.
- inflammation of a vein
with thrombus
formation
18.
A synonym for clot is _____.
- thrombus
19.
Build a word meaning a condition caused by a clot,
_____ / _____;
a cell that aids in clotting,
_____ / _____ / _____;
resembling a clot,
_____ / _____.
- thromb/osis
thrombosis
throm bō' sis
- thromb/o/cyte
thrombocyte
throm' bō sīt
- thromb/oid
thromboid
throm' boid
20.
Let's review. Add the correct term to each of the definitions below.
- Cardiac arrest _____ is the complete cessation of heart function.
- Coronary thrombosis _____ is a heart attack caused by a blood clot occluding the coronary blood vessel.
- Defibrillation _____ is a procedure using an electrical spark to shock the heart and bring about a regular heartbeat.
- Embolism _____ is the sudden obstruction of a blood vessel by an embolus.
- Embolus _____ is a foreign or abnormal particle circulating in the bloodstream such as an air bubble, fat globule, or cholesterol plaque.

Fibrillation _____ means a very fast (200–400 beats/min) and irregular heartbeat.

Thrombus _____ is a blood clot in the blood stream.

In this next section, you are taking on some new suffixes and prefixes.

21.

From the suggested answers select the meaning of each of the combining forms listed below.

SUGGESTED ANSWERS

blood vessel blood clot
artery vein
lung(s)

arteri/o _____

thromb/o _____

phleb/o _____

angi/o _____

pulmon/o _____

It's time to take a short break.

22.

Try this one.

-Orrhexis is a suffix meaning rupture.

rupture of the bladder

Cyst/orrhexis means _____.

rupture of the small intestine

Enter/orrhexis means _____.

rupture of a blood vessel

Angi/orrhexis means _____.

cardi/orrhexis
cardiorrhexis
kär dē ō rek' sis

23.

Build a word meaning rupture of the heart,
_____ / _____;

phleb/orrhexis
phleborrhexis
flē bō rek' sis

rupture of a vein,
_____ / _____.

24.

Here's a chance to use all the "orrh" suffixes with some combining forms to help you.

- orrhexis means rupture, bursting apart
- orrhagia means burst forth, hemorrhage
- orrhaphy means repair, suture together, close
- orrhea means flow, discharge

rhin/o salping/o
 cyst/o hepat/o

Build a medical term to satisfy each of the following definitions.

- cyst/orrhexis rupture of the (urinary) bladder
 _____ / _____;
- hepat/orrhagia hemorrhage from the liver,
 _____ / _____;
- rhin/orrhea flowing from the nose (runny nose),
 _____ / _____;
- salping/orrhaphy suturing (or joining) the fallopian tubes,
 _____ / _____.
- suturing (or closing) a rupture, hernia What does herniorrhaphy mean? _____
 _____.

25.

Fill in the blank to complete these definitions

SUGGESTED ANSWERS

- orrhagia -orrhaphy
- orrhea -orrhexis

- orrhaphy _____ means repair, close, suture
- orrhagia _____ means burst forth, hemorrhage
- orrhea _____ means discharge, flowing
- orrhexis _____ means rupture, bursting apart

26.

An- is a form of the prefix *a-* meaning without. *Esthesia* means feeling or sensation. Give the meaning of the following words:

- anesthesia _____

 _____;
- a condition of being without feeling

the study or science of removing feeling _____
 _____;

instrument for measuring feeling or sensation _____
 _____;

abnormal sensitivity (to pain) _____
 _____.

27.

Analyze the following words (you do the dividing):

an/esthesi/o/log/ist _____
 an' es thēz ē ol' ō jist _____;

hypo/esthes/ia _____
 hī pō es thē' zē ə _____.

28.

Algesia is a word meaning a sense of pain. What does analgesia mean? _____
 _____.

without sensitivity to pain _____
 an' al jē' zē ə

29.

The prefixes *a-* and *an-* mean without. Examine the following two lists of words:

- | | |
|------------------------|----------------------|
| an/ <i>alg</i> esia | a/ <i>bi</i> otic |
| an/ <i>em</i> ia | a/ <i>der</i> mia |
| an/ <i>encephal</i> us | a/ <i>febr</i> ile |
| an/ <i>esthes</i> ia | a/ <i>kines</i> ia |
| an/ <i>onych</i> ia | a/ <i>men</i> ia |
| an/ <i>op</i> ia | a/ <i>menorr</i> hea |
| an/ <i>ur</i> ia | a/ <i>pne</i> a |
| an/ <i>ur</i> esis | a/ <i>seps</i> is |

Draw a conclusion: When the word root begins with a consonant, use the prefix _____.

a-

When the word root begins with a vowel, use the prefix _____.

an-

30.

Put the proper form of the prefix before each of the following roots and then write a meaning for each.

anemic—a condition of _____emic _____
 less blood _____;

astomia—without a _____ stomia _____
 mouth (congenital) _____;
 afebrile—without fever _____ febrile _____;
 anodontia— toothless _____ odontia _____.

31.

Here's some practice with other prefixes. *Phas/o* means speech. Write a meaning for each of the following:

speechless _____ aphasia _____;
 abnormally fast speech _____ tachyphasia _____;
 abnormally slow speech _____ bradyphasia _____;
 pain or difficulty when _____ dysphasia _____
 speaking _____.

32.

Neur/o is used in words that refer to nerves. *Neur/algia* means

pain along the course _____
 of a nerve (or _____
 equivalent) _____.

33.

Tripsis, from which we get *trips/y*, is a Greek word that means “rub” or “massage.” *Neur/o/trips/y* means surgical crushing of a nerve. The word root for crushing (usually by rubbing or grinding) is _____.

trips _____
 neur/o/trips/y _____
 neurotripsy _____
 nyōō' rō trip sē _____
 Tripsis can be carried to the point of crushing or grinding. Surgical crushing of a nerve is called _____ / _____ / _____ / _____.

34.

In some cases of cholelithiasis, it may be necessary to crush calculi so they can pass from the gallbladder. A word meaning surgical crushing of gallstones is

chole/lith/o/trips/y _____
 cholelithotripsy _____
 kō lē lith' ō trip sē _____ / _____ / _____ / _____.

35.

Myel/itis can mean either inflammation of bone marrow or inflammation of the spinal cord. From the definitions, you may conclude

bone marrow
spinal cord

that *myel* can be the word root for both _____
and _____.

an immature bone
marrow cell

36.
The suffix *-blast* means an immature cell (in the process of develop-
ing). In the term *myel/o/blast*, the word root *myel* refers to bone
marrow. Write the meaning of *myel/o/blast*: _____
_____.

hernia of the spinal
cord

In *myel/o/cele*, the word root refers to spinal cord. Write the
meaning of *myel/o/cele*: _____
_____.

bone marrow or
spinal cord

37.
A medical term built on the word root *myel* may refer to different
structures of the body. It may refer to either _____
or _____.

bad, defective (poor or
abnormal formation)

38.
You have learned that *dys-* means pain, painful. But *dys-* is a prefix
that also means bad (defective) or difficult. Try this.
Plasia means formation or change, in the sense of molding during
the *growing years*. This kind of formation occurs naturally instead of
being done by a plastic surgeon. *Dys/plasia* means _____

_____.

hyper/plasia
hyperplasia
hī' per plā' zha

39.
A/plasia means failure of an organ to develop properly. A term that
means overgrowth or excessive development in the formative years
is _____ / _____.

hypo/plasia
hypoplasia
hī' pō plā' zha

40.
If overdevelopment is hyperplasia, underdevelopment is expressed as
_____ / _____.

chondr/o/dys/plasia
chondrodysplasia
kon' drō dis plā' zha
bad (defective)
development of
cartilage

41.
Myel/o/dys/plasia means defective development of the spinal cord.
What does *chondr/o/dys/plasia* mean? _____

_____.

oste/o/chondr/o/dys/
 plasia
 osteochondrodysplasia
 os' tē ō kon' drō dis
 plā' zhə
 defective formation of
 bone and cartilage

42.
 Write the meaning of osteochondrodysplasia. _____

 _____.

43.
 Here's another quick review before moving on.

SUGGESTED ANSWERS

- algesia phas/o
- dys plas/o
- tripsy lith/o
- myel/o

Write the suffix or combining form that refers to each of the following words.

myel/o
 phas/o
 -algesia
 lith/o
 -tripsy
 myel/o
 dys-
 plas/o

spinal cord _____
 speech _____
 sensation of pain _____
 calculus _____
 rubbing, crushing (procedure) _____
 bone marrow _____
 painful, difficult, bad _____
 formation, development _____

44.
 Explain the meaning of the following medical terms.

abnormally slow speech
 rubbing, crushing of a
 nerve
 incision to remove a
 gallstone
 radiographic exam of
 the spinal cord
 bad development
 (formation) of
 cartilage
 lack of pain sensation

bradyphasia _____
 neurotripsy _____

 cholelithotomy _____

 myelogram _____

 chondrodysplasia _____

 analgesia _____

- microns
mī' krons
micr/o/meter
micrometer
mī krom' ə ter
45.
The *micron* (1/1000 mm) is a unit of measurement. Many cocci are 2 microns in diameter. A red blood cell is 7 _____ in diameter.
- An instrument for measuring the diameter of something microscopic is a _____ / _____ / meter.
- large
46.
On the other hand, *macr/o* is the opposite of *micr/o*. *Macr/o* is used in words to mean _____.
- a large immature cell
visible by the naked
eye
47.
Things that are *macr/o/scop/ic* can be seen with the naked eye. Give a meaning for *macroblast*. _____

_____.
- Macr/o/cephal/us
mak rō se fal' us
48.
An abnormally large head is _____ / _____ / _____ / _____.
- macr/o/cyte
_____ / _____ / _____.
- macr/o/cocc/us
A very large coccus is called a _____ / _____ / _____ / _____.
- In each case there is a
condition of—
49.
The suffix *-ia* indicates a condition. Pronounce each term and write a meaning.
- abnormally large tongue
mak rō glos' ē ə
_____ Macr/o/gloss/ia _____
- abnormally large ear(s)
mak rō' shē ə
_____ Macr/ot/ia _____
- abnormally large nose
mak rō rin' ē ə
_____ Macr/o/rhin/ia _____
- abnormally large lips
mak rō kē' lē ə
_____ Macr/o/cheil/ia _____
- dactyl
dak' til
50.
Macr/o/dactyl/ia means abnormally large fingers or toes. The word root for fingers or toes is _____.

enlarged digits, or
another way of saying
large fingers or toes

51. What does dactyl/o/megaly mean? _____.

dactyl/o

52. A finger or toe is called a digit or dactyl. But the combining form for digit is _____ / _____.

dactyl/itis

dactylitis

dak til ī' tis

Build a term meaning inflammation of a digit,
_____ / _____;

dactyl/o/spasm

dactylospasm

dak til' ō spa zm

cramp or spasm of a digit,
_____ / _____ / _____;

dactyl/o/gram

dactylogram

dak til' ō gram

a fingerprint,
_____ / _____ / _____.

abnormally large fingers
and toes (digits)

53. Macr/o/dactyl/ia means _____
_____.

fingers or toes (digits)

Poly/dactyl/ism means too many _____
_____.

poly/ur/ia

polyuria

pol ē yer' ē ə

54. *Poly-* is a prefix meaning too many or too much. Poly/ur/ia means excessive amount of urine. When a person drinks a lot of fluid,
_____ / _____ / _____ results.

polyneuritis

pol ē nyōō rī' tis

55. *Path* refers to disease.
Poly/neur/o/path/y means disease of many nerves.

inflammation of many
nerves

What does poly/neur/itis mean? _____
_____.

inflammation of many
joints

56. Write the meaning of the following:
Poly/arthr/itis _____
_____;

pain in several nerves

Poly/neur/algia _____
_____.

<p>syn/ergetic synergetic sin er je' tik</p>	<p>57. Syn/ergetic means working together. Drugs that work together to increase the effects of one another are called _____ / _____ drugs.</p>
<p>synergetic</p>	<p>58. Synergetic muscles are muscles that work together. Three muscles work together to flex the forearm. The function of these muscles is described as _____.</p>
<p>synergetic</p>	<p>59. APC tablets are thought by some to be more effective for killing pain than aspirin alone. This is because <i>aspirin</i>, <i>phenacetin</i>, and <i>caffeine</i> are _____ drugs.</p>
<p>a fused joint that moves as one</p>	<p>60. Syn/arthr/osis means an immovable joint; adjoining bones are fused together. When bones of a joint are fused so they all move as one, the condition is syn/arthr/osis. What does it mean? _____ _____.</p>
<p><u>syn</u>dactylism <u>syn</u>arthrosis</p>	<p>Underline the part of the word that means joined together as one: syndactylism synarthrosis</p>
<p>a condition of two or more digits joined together as one</p>	<p>61. What does syn/dactyl/ism mean (-ism denotes a medical condition or disease)? _____ _____.</p>
<p>together or joined as one</p>	<p>62. <i>Syn-</i> and <i>sym-</i> are different forms of the same prefix: <i>Syn-</i> and <i>sym-</i> mean _____.</p>
<p><u>syn</u>arthrosis <u>sym</u>metrical <u>sym</u>bolism <u>sym</u>physis</p>	<p>63. Use the prefix <i>sym-</i> when the word root begins with the consonants <i>b</i>, <i>m</i>, or <i>p</i>; use <i>syn-</i> in all other cases. Write the prefix for each of the following: _____ _____ arthrosis _____ _____ metrical _____ _____ bolism _____ _____ physis</p>

syn	_____	drome
symp	_____	pathy
symb	_____	biosis

64.
 Both syn- and sym- mean _____
 joined as one, together _____; sym- is used when followed by the letters _____,
 b, m, p _____, or _____; syn- is used in other medical words.

65.
 Time to review. Complete each brief definition. Refer to the suggested answers. Write your selection in the space provided.

SUGGESTED ANSWERS:

algisia	phas/o	a sensation of pain _____
dactyl/o	phleb/o	veins _____
embolus	plas/o	foreign particle circulating in the blood _____
esthesia		feeling, sensation _____
		speech _____
		formation, development _____
		digits _____

algisia
 phleb/o
 embolus
 esthesia
 phas/o
 plas/o
 dactyl/o

66.
 Try these.

SUGGESTED ANSWERS:

a-, an-	-orrhagia	rupture, burst apart _____
dys-	-orrhaphy	together, as one _____
macro-	-orrhexis	defective, difficult, painful _____
micro-	syn-, sym-	hemorrhage, burst forth _____
-orrhoea	-tripsy	large _____
		crushing, rubbing _____

-orrhexis
 syn-, sym-
 dys-
 -orrhagia
 macro-
 -tripsy

micro-	microscopic, very small _____
-orrhea	flowing, discharge _____
a-, an-	without, absent _____
-orrhaphy	suturing (repair of) _____

67.

Here are some suggestions:

In your own words, write the meaning for each of the following:

crushing of a nerve	neur/o/tripsy _____
without sensation of pain	an/esthesia _____
bad formation of the spinal cord	myel/o/dys/plasia _____
a condition of a blood clot in the coronary artery	coronary thrombosis _____ _____
pertaining to something too small to see with the naked eye	micro/scop/ic _____ _____
without speech, speechless	a/phasia _____
a condition of fingers joined together as one	syn/dactyl/ism _____
surgical repair of a hernia	herni/orrhaphy _____
hemorrhage of the liver	hepat/orrhagia _____
without, or absent, pain	an/algisia _____
complete cessation of heart function	cardiac arrest _____
electrical shock of the heart to restore regular rhythm	defibrillation _____ _____
ruptured blood vessel (vein)	phleb/orrhaxis _____

68.

Here are 30 medical terms for practicing your pronunciation. Say the term aloud and then say what it means. Then take the Unit 6 Self-Test.

analgesia (an' al jē' zē ə)

anemia (an ē' mē ə)

anesthesiologist

(an' es thē zē ol' ō jist)

angiogram (an' gē ō gram)

cardiorrhexis (kār dē ōr rek' sis)

chondrodysplasia

(kon' drō dis plā' zhə)

cystorrhexis (sis tō rek' sis)

dactylogram (dak til' ō gram)

dactylomegaly

(dak' til ō meg' ə lē)

defibrillation (dē fib ri lā' shun)

embolism (em' bō lizm)

embolus (em' bō lus)

esthesiometer

(es thē zē om' ə ter)

hyperesthesia

(hī' per es thē' zhə)

hypoesthesia (hī' pō es thē' zhə)

hypoplasia (hī' pō plā' zhə)

hysterorrhexis (his' ter ō rek' sis)

lithotripsy (lith' ō trip sē)

macrocephalus

(mak' rō se fal' us)

macrocheilia (mak' rō kē' lē ə)

macrotia (mak rō' shē ə)

micrometer (mī krom' ə ter)

neuromyelitis

(nyōō' rō mī il ī' tis)

neurotrippsy (nyōō' rō trip sē)

phlebitis (flē bī' tis)

polyarthritis (pol ē arth rī' tis)

polyuria (pol ē yer' ē ə)

syndactylism (sin dak' til izm)

thrombosis (throm bō' sis)

thrombus (throm' bus)

Unit 6 Self-Test

Part 1

From the list on the right, select the correct meaning for each of the following often used medical terms. Put the letter in the space provided.

- | | |
|--------------------------|---|
| _____ 1. Lithotripsy | a. Inflammation of a vein |
| _____ 2. Thrombosis | b. Shocking the heart to restore a normal heartbeat |
| _____ 3. Polyarthrititis | d. Obstruction of a blood vessel by an embolus |
| _____ 4. Anesthetist | e. Abnormally enlarged head |
| _____ 5. Synarthrosis | f. Absence of pain |
| _____ 6. Phlebitis | g. Inflammation of many joints |
| _____ 7. Hysterorrhexis | i. A specialist who removes all feeling or sensation |
| _____ 8. Dactylogram | j. Crushing of a calculus |
| _____ 9. Analgesia | k. Bursting apart of the uterus |
| _____ 10. Defibrillation | l. Fingerprint |
| _____ 11. Neuromyelitis | m. Speechless |
| _____ 12. Macrocephalus | n. Clotted condition of a blood vessel |
| _____ 13. Hypoesthesia | o. Inflammation of the nerves of the spinal cord |
| _____ 14. Embolism | p. Less than normal sensation |
| _____ 15. Aphasia | q. Immovable joint, bones of a joint joined together as one |

Part 2

Complete each of the medical terms on the right with the appropriate missing part or word.

1. Rupture (bursting apart) of the urinary bladder _____
2. Abnormally intense feeling or sensation _____
3. Foreign particle occluding a blood vessel _____ism
4. Rupture (bursting apart) of the heart _____
5. Abnormally large head _____
6. Inflammation of many nerves _____
7. Pain along the course of a nerve _____
8. A stopped heart _____(2 wds)
9. Abnormally large fingers _____
10. Foreign substance circulating in the bloodstream _____
11. Instrument for measuring feeling, sensation _____
12. A blood clot circulating in the bloodstream _____
13. Crushing destruction of a nerve _____
14. Absent the ability to speak, speechless _____
15. Fingers grown together as one _____

ANSWERS**Part 1**

1. j.
2. n.
3. g.
4. i.
5. q.
6. a.
7. k.
8. l.

Part 2

1. Cystorrhexis
2. Hyperesthesia
3. Embolism
4. Cardiorrhexis
5. Macrocephalus
6. Polyneuritis
7. Neuralgia
8. Cardiac arrest

- | | |
|--------|-------------------|
| 9. f. | 9. Dactylomegaly |
| 10. b. | 10. Embolus |
| 11. o. | 11. Esthesiometer |
| 12. e. | 12. Thrombus |
| 13. p. | 13. Neurotripsy |
| 14. d. | 14. Aphasia |
| 15. m. | 15. Syndactylism |

7 Symptoms, Diagnoses, Treatments, Communication Qualifiers, and Statistics

In this unit you will learn many terms related to signs and symptoms, diagnoses, treatments, and statistics. Some words will be familiar, but you'll use them in new ways.

Signs

atrophy
edema
hypertrophy
pulse
respiration
temperature

Qualifiers

acute
central
chronic
generalized
localized
paroxysmal
peripheral

Word Parts

anti- (*against*)
chlor/o (*green*)
erythr/o (*red*)
melan/o (*black*)
pyret/o (*fever*)
xanth/o (*yellow*)

Symptoms

anorexia
dyspnea
malaise
nausea
tinnitus
vertigo

Treatments

active
palliative
prophylactic
systemic

Diagnosis

prodrome
prognosis
syndrome

Statistics

morbidity
mortality

Be sure to complete the Unit 6 Review Sheet before continuing.

Signs and Symptoms

sight
 sound
 smell
 taste
 feel

1.
 What is a sign or a symptom? Let's take them one at a time. A *sign* is any abnormality of the body a physician may discover on examination of the patient. A *symptom* is also evidence of an abnormality in structure or function. However, the patient experiences a symptom through one or more of the five organs of sense. Can you name them?

2.
 Simply put, a sign or a symptom is evidence there is something wrong. The patient feels, tastes, or hears something that is out of the ordinary and tells the examiner about it. This symptomatic evidence may not be apparent to the examiner. On the other hand, sometimes evidence can be observed by the examiner and also be experienced by the patient. Check the box that indicates whether the evidence described is a sign, a symptom, or both.

	SIGN	SYMPTOM	BOTH	
both	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	swelling of the wrist
symptom	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	ringing (tinkling sound) in the ear
symptom	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	sourness in the mouth
symptom	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	ammonia sensation in the nose
both	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	painful and swollen elbow
both	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	bleeding from the nose
both	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	blue discoloration around the eye
both	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	very rapid breathing
symptom	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	pain in the heel
both	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	chills and fever
both	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	painful muscle spasm in the leg
both	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	chills, coughing, and runny nose
sign	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	slow heartbeat
sign	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	pale complexion
sign	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	eyes closed, not responding to questions or poking

3.
 An abnormality apparent to an examiner (and sometimes to the patient) is called a _____.

sign

4.
Any change in body function or structure that the patient sees, hears, tastes, smells, or feels (and may not be apparent to an observer) is called a _____.

As you can see, most evidence of illness can be observed by someone other than the patient and may be experienced by the patient as well.

symptom

Vital Signs

5.
Vital means relating to life. A vital sign is evidence a patient is alive. Body temperature, pulse rate, and rate of respiration are vital signs because they provide continuous information about the essential processes of the body. If one of these signs is absent, the patient is dead (or in big trouble). Body temperature, pulse, and respiration are very important indicators and are called _____.

vital signs

6.
Vital signs can be measured. Temperature (T) loosely refers to body heat above normal. Normal body temperature is 98.6°F. Body temperature increases in a hot environment and during physical exercise. Many diseases, serious and not serious, cause a patient's temperature to rise. Elevated body temperature is called *fever*. Low fever is 99° to 101°F. Moderate fever is 101° to 103°F. High fever is 103° to 105°F. A patient who is afebrile has a normal body temperature, which is approximately _____ °F.

98.6

7.
Pyro is a word root meaning fire or heat. (Remember the funeral pyres on which the Greeks and Romans burned their dead?) A pyromaniac has a fondness for watching things burn or starting _____.

fires

8.
Pyret/o forms words meaning fever. A patient described as pyretic would have a temperature _____ 98.6°F.
(above/below/same as)

above

9.
Pyrexia means feverish. Fever is one way the body shows something is wrong. Fever can be observed and measured; therefore, pyrexia is a _____ of disease.
sign/symptom

sign

- hypothermia
hī pō ther' mē ə
10.
Hypo/thermia refers to body temperature below normal. A patient's temperature may be lowered safely to about 80° during surgery. This controlled procedure reduces the patient's need for oxygen and makes some surgical procedures safer. The patient's lower body temperature is called _____.
- hypothermia
11.
On the other hand, a person who falls through the ice on a pond in January will surely develop a life-threatening condition also called _____.
- hyper
hī per
12.
Injury and dehydration can cause a patient's temperature to rise above 106°F. This life-threatening high temperature is known as _____ pyrexia.
(hyper/hypo)
- that which produces
fever
13.
In an earlier unit you learned that gen/o means to produce or originate. What does pyret/o/gen mean? _____
- pyretogen
pī ret'ō jen
14.
The measles virus produces fever. Therefore, the virus that causes measles is a _____.
- pertains to something
that produces fever
15.
Pyret/ic means pertaining to fever. What does pyret/o/gen/ic mean? _____
- an agent that works
against fever
16.
Anti- means against. Aspirin is an anti/pyret/ic agent. What does antipyretic mean? _____
- fever reduction
17.
Lysis means dissolution or reduction. What does pyret/o/lysis mean? _____

- without symptoms 18. A physician writes on a patient’s chart, “The patient has a low-grade fever but is otherwise asymptomatic.” What does asymptomatic mean? _____.
- increase 19. Now let’s talk about another vital sign. Pulse (P) is a rhythmical throbbing of the arterial walls. This throbbing is produced when the heart contracts and forces an increased volume of blood into the vessels. After chasing your dog down the street, you would expect your pulse rate to _____.
(increase/decrease)
- tachycardia 20. The normal pulse of an average adult is 70 to 80 beats per minute. Fever usually causes a patient’s heart to beat more rapidly. When a patient’s pulse is 100 beats per minute or higher the condition is known as _____.
(tachycardia/bradycardia)
- bradycardia On the other hand, a pulse less than 60 beats per minute indicates _____.
- sign 21. The patient usually does not feel a rapid, slow, or irregular pulse. However, a physician can observe and measure pulse rate; therefore, it is said to be a _____.
(sign/symptom)
- 70 to 80 22. Pulse rate depends on size, sex, age, and physical condition. It’s higher in women than men. It’s higher in children than adults. But we can say that a healthy adult has an average pulse of (Check one.)
 30 to 50 beats per minute.
 70 to 80 beats per minute.
- vital sign 23. The pulse is usually felt over the radial artery at the wrist. Although pulse is a simple measure, it provides important evidence about the life (and death) status of the patient. Therefore, it is considered a _____.

peripheral
per i' fer al

24.
Periphery means outer surface of the body. It is the part of the body away from the center. A pulse taken at the wrist or ankle is a _____ pulse.
(central/peripheral)

central

25.
A pulse taken near the center of the body, where the heart is, is a _____ pulse.
(central/peripheral)

because it is near the
center of the body

26.
A pulse taken with a stethoscope on the chest is a central pulse. Why? _____

near the outer surface
of the body

27.
What does peripheral mean? _____

accelerated

28.
Here's the third vital sign. Respiration (R) is breathing. Breathing is a function of the respiratory system. A breath draws in oxygen. The circulating blood carries the oxygen to the tissues and then returns carbon dioxide to the lungs. The lungs breathe out the waste products of carbon dioxide and water. The normal rate of respiration for an adult is 16 to 18 breaths per minute. A respiration rate of more than 25 breaths per minute is _____ respiration.
(accelerated/decelerated)

an instrument for
measuring breathing

29.
Pne/o (pronounced nē o) means breath or breathing. Pne/o/dynamics means the mechanism of breathing. What does pne/o/meter mean? _____

30.
Here's a rule that will help you pronounce words containing the root pne/o, pne/a. When pne/o begins the word, the letter "p" is silent. The letter "p" is pronounced when a prefix comes before it. Pronounce each of the following:

a/pnea pronounce: ap' nē ə
hyper/pnea pronounce: hī perp' nē ə

tachy/pnea	pronounce: tak ip nē' ə
brady/pnea	pronounce: brad' ip nē ə
pneumon/ia	pronounce: nū mon' ē ə

31.
 very slow breathing
 Bradycardia means very slow heartbeat. What does brady/pnea mean? _____.
32.
 disp' nē ə
 painful (bad) breathing
 Pronounce dys/pnea. What does it mean? _____.
33.
 excessively rapid breathing
 hī perp' nē ə
 Hyperpyrexia means excessively high temperature (over 106°F). What does hyperpnea mean? _____.
34.
 without breathing
 ap' nē ə
 A/symptomatic means without symptoms. What does a/pnea mean? _____.
 (Pronounce it.)
35.
 hyperpnea
 hī perp' nē ə
 Fever and disorders of the lungs or heart may accelerate respiration. Build a word that describes a respiration rate over 25 breaths per minute: _____.
36.
 bradypnea
 brad ip nē' ə
 Very slow breathing of 8 to 9 breaths per minute occurs in serious illnesses like uremia, diabetic coma, and opium poisoning. Build a term that means very slow breathing: _____.
37.
 A foreboding irregular and unusual pattern of breathing is called Cheyne-Stokes respiration. (Pronounced *chain-stokes*. It's a condition named after two physicians who first described it more than 150 years ago.) Respiration gradually increases in rapidity and volume until the rate reaches a climax (perhaps 60 to 80 breaths per minute). Then breathing subsides and ceases entirely for up to one minute—when respirations begin again. This condition is due to disturbance of the respiratory center in the brain. It is often a forerunner of death—but may last several months, days, or even disappear.

apnea
ap' nē ə

38. Cheyne-Stokes respiration is cyclical. The phase of respiration, at 60 to 80 breaths per minute, is called hyperpnea. What term describes the period when all respiration ceases? _____.

Cheyne-Stokes

39. In certain very serious illnesses, an irregular and arrhythmic type of breathing may occur, characterized by both hyperpneic and apneic phases, often followed by death. It is called C_____–S_____ respiration.

vital signs

40. Something is very wrong with the body when a patient's respiration rate exceeds 25 breaths per minute. Respiration rate (R), fever (T), and a rapid pulse (P) are measurable signs of disease. They indicate the status of the whole body and are called _____.

temperature
pulse
respiration

41. The vital signs are T _____, P _____, and R _____.

42. Let's review. Select the best meaning from column B for each brief definition in column A. Write your selection in the space provided.

	COLUMN A	COLUMN B
symptom see, hear, smell, taste, feel vital signs pyrexia pī rek' sē ə hypothermia hī pō ther' mē ə hyperpyrexia hī per pī rek' se ə pyretogen pī ret' ō gen pyretolysis pī ret ō lī' sis asymptomatic ā simp tō mat' ik	bodily change a patient perceives	asymptomatic
	_____	vital signs
	sensory ways symptoms are perceived	hyperpyrexia
	_____	hypothermia
	temperature, pulse, and respiration	pyretogen
	_____	pyrteolysis
	elevated temperature, fever	pyrexia
	_____	see, hear, smell, taste, feel
	subnormal body temperature	symptom

temperature over 106°F		

something that produces fever		

reduction, dissolution of fever		

lack of symptoms		

	43.	
	Now try these.	
	COLUMN A	COLUMN B
pulse	throbbing of an artery in time with the heartbeat _____	apnea
peripheral	pulse taken at the surface of the body _____	bradypnea
pne/o, pne/a	two combining forms for breath, breathing _____ or _____	Cheyne- Stokes respiration
bradypnea	very slow breathing _____	dyspnea
dyspnea	difficult breathing _____	hyperpnea
hyperpnea	excessively fast breathing _____	peripheral
respiration	another word for breathing _____	pne/o, pne/a
apnea	respiratory arrest, not breathing _____	pulse
Cheyne-Stokes respiration	breathing that reaches a climax, then ceases before beginning again _____ - _____	respiration

Color and Other Signs

	44.	
	Color and changes in color of various parts of the body also tell the physician a lot about the patient's condition. Use the information here to build words involving color.	
	leuk/o	white
	melan/o	black
	erythr/o	red
	cyan/o	blue
	chlor/o	green
	xanth/o	yellow
	45.	
xanth/opsia	Cyan/opia means blue vision. Form a word meaning	
zan thop' sē ə	yellow vision, _____/opsia.	
chlor/opia	green vision, _____/opia.	
klor ō' pē ə		
	46.	
erythr/o/derma	Cyan/o/derma means blue skin. Build a word meaning	
e rith' rō der' mā	red skin, _____ / _____ / _____.	
melan/o/derma	black (discolored) skin, _____.	
mel' a nō der' mā	(You draw the lines.)	

green (plant) cell
 white (blood) cell
 red (blood) cell

47.

Write a meaning for each of the following:

chlor/o/cyte, _____.
 leuk/o/cyte, _____.
 erythr/o/cyte, _____.

melan/o/blast
 mel' a nō blast
 erythr/o/blast
 e rith' rō blast

48.

-Blast means immature cell. Build a word meaning an immature cell of the following colors:

immature black cell, _____ / _____ / _____.
black immature cell
 immature red cell, _____ / _____ / _____.

a black-pigmented
 malignant tumor

49.

Melan/osis means a condition of black pigmentation. Carcinoma is a malignant tumor.

What is a melanocarcinoma? _____
 _____.

melanocarcinoma
 mel' a nō kär si nō' mä

50.

Whenever a hairless mole on the skin turns black and grows larger, a physician should be consulted because there is danger of black mole cancer, or _____.

green
 red
 yellow
 white

51.

Chlor/o means _____.
 Erythr/o means _____.
 Xanth/o means _____.
 Leuk/o means _____.

Qualifiers

52.

In medical terminology we often use qualifiers. These are adjectives or adverbs that when used with another word make the meaning of that term more specific. Here are a few frequently used qualifiers. *Local* means a small area or part of the body. *General* means involving the whole body or many different areas or parts of the body at the same time.

53.
Anesthesia may be considered either local or general. Before extracting a tooth, the dentist injects Novocain to prevent pain. Novocain is a _____ anesthetic.
(local/general)
54.
On the other hand, laughing gas, which puts the patient to sleep, is a _____ anesthetic.
(local/general)
55.
Label each of the following as local or general.
- skin rash around the neck and ears,
_____.
- measles macules from stern to stern,
_____.
- acne all over the face,
_____.
- second-degree scalding burn over the belly and upper thigh,
_____.
- reddish purple spots over the trunk of the body and wherever clothing covers the skin,
_____.
56.
A localized condition means _____

_____.
- When a condition is generalized, it means _____

_____.
57.
Systemic means pertaining to all body systems, or the whole body rather than one of its parts. It is another word for _____.
(local/general)
58.
An antihistamine tablet helps a patient breathe more easily by drying up mucous membranes inside the nose and sinuses. An antihistamine also dries up mucous membranes that line all body cavities. We say it has a _____ effect.

local

general

local

general

local

local (two places)

general

a small area or part of
the body
involving the whole
body or many areas
at the same time

general

systemic
sis tem' ik
or general

Other Signs

Besides observing color and color changes, a physician inspects the patient carefully for signs and symptoms that will aid in learning about a patient's disease. Here are some observable changes in the body.

59.
fluid *Edema* refers to fluid in the tissues. It is a condition in which body tissues accumulate excessive _____.

60.
the whole body Fluid in the tissues may be local or general. Localized edema involves a small area of the body; generalized edema involves _____.

61.
edema
e dē' ma A bee sting produces an accumulation of fluid in the tissues at the bite site. This is called localized _____.

62.
generalized edema Heart failure causes severe disturbance of the body's water balance mechanisms. Excessive fluid may accumulate in the lungs, legs, and abdomen. This condition is called _____
(two words). (localized/generalized)

63.
edema Excessive accumulation of fluid in the body tissues is called _____.

64.
Atrophy
at' rō fē Atrophy is another observable sign of disease. It means a wasting away or shrinking of tissues, an organ, or the whole body. Underline the word root meaning development.

Atrophy
at' rō fē
overdevelopment Atrophy
What does hyper/troph/y mean?
_____.

65.
It's time to review. Select the best meaning from Column B for each color listed in Column A Write your selection in the space provided.

	COLUMN A	COLUMN B
erythr/o	red _____	cyan/o
leuk/o	white _____	chlor/o
cyan/o	blue _____	erythr/o
chlor/o	green _____	melan/o
xanth/o	yellow _____	leuk/o
melan/o	black _____	xanth/o

66.

Select a suggested answer to complete each of the following definitions.

SUGGESTED ANSWERS

edema	local
generalized	systemic
hypertrophy	atrophy

generalized

systemic

local

edema

atrophy

hypertrophy

- a) _____ means pertaining to the whole body or many areas at the same time.
- b) Another term meaning the same as a) above is _____.
- c) An injection of anesthetic under the skin of the forearm to remove a mole is described as a _____ anesthetic.
- d) Accumulated excess fluid in the tissues of the lower extremities may be a condition of _____.
- e) A wasting away or shrinking of tissues of an organ or a body part is described as _____.
- f) _____ is the term that describes the opposite of e) above.

Subjective Symptoms

Objective *signs* such as T, P, and R are *signs* of primary importance in the investigation of an illness. However, the patient's own concerns and impressions also provide valuable information. Changes in the body not apparent to an observer but experienced by the patient are called *symptoms*.

67.

Nausea means sickness of the stomach with a desire to vomit. Since it is an internal feeling evident only to the patient, we call it a

symptom

_____.

- nausea
naw' zē ə
68. Pain, noxious odors, fevers, and some drugs may cause a sickness of the stomach with a desire to vomit, which is called _____.
- nausea
69. *Mal de mer* is the French term meaning motion sickness. It is another way to describe the sick feeling of _____.
- emesis (or vomitus)
em' e sis
70. Emesis means vomitus—that which is vomited. An irritation of the vomiting center in the brain produces nausea. As a result, the patient ejects the stomach contents through the mouth. The product of vomiting is _____.
- vomiting
emesis
71. Food poisoning, drugs, and fevers can irritate the vomiting center and thus induce _____. The product of vomiting is _____.
- blood in the vomitus
72. Chol/emesis means bile in the vomitus. What does hemat/emesis mean? _____
- pertaining to something that induces vomiting
73. In an emergency, there are two quick ways to empty the stomach of its contents: (a) use a tube to “pump” the stomach, or (b) give the patient an emetic. What is an emetic? _____
- nausea; the patient feels the sensation (not observable)
74. *Nausea* usually precedes *emesis*. Circle the term that is a subjective symptom. Why? _____
75. In a wide variety of illnesses, two symptoms often occur together. We'll take them one at a time.
- malaise is a French word literally meaning ill at ease. Underline the part of the word meaning ill.

- malaise
ma lā'z
76.
A patient with infectious mononucleosis may experience a vague sensation of not feeling well, or feeling ill at ease. The symptom is called _____.
- the vague sensation of
not feeling well
77.
Malaise is a symptom because the physician cannot observe malaise and does not experience the patient's sensation. Describe malaise.

_____.
- without an appetite
an o rek' sē ə
78.
Orexia means appetite. What does an/orexia mean? _____
_____.
- pertaining to something
that produces or
stimulates an appetite
79.
Orexi/mania means an abnormal desire (madness) for food or an uncontrollable appetite. What does orexi/genic mean? _____
_____.
- orexigenic
ō reks i gen' ik
80.
Food that smells good and is appealing to the eye stimulates appetite. We may describe this food and its presentation as _____.
- anorexia
an o rek' sē ə
81.
Along with malaise, loss of appetite is a very common symptom in many diseases. Write the term for loss of appetite. _____.
- malaise
- nausea
- emesis
- pyrexia
- anorexia
82.
Complete each of the following definitions:
A vague sensation of not feeling well is _____.
Sickness of the stomach with a desire to vomit is _____.
Another word for vomitus is _____.
Elevated body temperature is _____.
Loss of appetite is _____.

- malaise
anorexia
83.
A patient with an infection may experience a vague sensation of not feeling well. A patient with a fever may not have an appetite. When a fever and infection occur at the same time, the patient usually reports these two very subjective symptoms. What are they?
_____ and _____.
- the patient experiences
the sensation
84.
Anorexia and malaise are purely subjective symptoms. What does that mean? _____
_____.
- turning around
85.
Vertigo means a turning around. The patient experiences the sensation of turning around in space or having objects move about him.
86.
Vertigo is *not* dizziness, faintness, or lightheadedness. However, the patient may have difficulty maintaining equilibrium, and may describe a sensation of spinning or _____ in space.
- symptom
vertigo
ver' ti gō
87.
An infection in the middle ear can cause a patient to experience the sensation of turning around in space or of objects moving about her. This _____ is known as _____.
(sign/symptom)
- tinnitus
ti nī' tus
88.
Tinnitus is a jingling, or tinkling, sound in the ear. It is often called ringing in the ear.
Toxicity or sensitivity to a drug like aspirin can cause ringing in the ear. Write the medical term for tinkling sound in the ear:
_____.
- tinnitus
vertigo
89.
Ménière's syndrome (pronounce ma nē ars') is a recurrent and usually progressive group of symptoms including hearing loss, ringing in the ears, a sensation of fullness or pressure in the ears, and a turning around in space.
The term for ringing in the ears is _____.
The sensation of turning about in space is _____.

90.

Try these and see how much you've learned. Select the best word from the suggested answers.

SUGGESTED ANSWERS:

erythroderma	leukocyte
melanoblast	cyanemia
chlorocyte	xanthemia

chlorocyte
xanthemia
melanoblast
erythroderma
leukocyte
cyanemia

green (plant) cell, _____.
yellowish blood, _____.
black (dark) immature cell, _____.
reddened skin, _____.
white blood cell, _____.
blue-bloodedness, _____.

91.

Now try these qualifiers.

hypertrophia	atrophy
general	systemic
local	

general or systemic
hypertrophia
local
systemic
atrophy

pertaining to the entire body _____.
overdevelopment _____.
pertaining to a small area, or one part, _____.
pertaining to all body systems _____.
a wasting away, underdevelopment, _____.

92.

Here are some objective symptoms.

tinnitus	malaise
emesis	nausea
vertigo	anorexia

vertigo
nausea
emesis
tinnitus
malaise
anorexia

a sensation of turning around in space _____.
seasickness; inclined to vomit _____.
another word for vomitus _____.
ringing in the ears _____.
a vague sensation of not feeling well _____.
loss of appetite _____.

Describing Illness

93.

A diagnosis is an identification of an illness. It requires scientific and skillful methods to establish the cause and nature of a sick person's disease. A diagnosis is arrived at by evaluating (a) the history of the person's disease, (b) the signs and symptoms present, (c) laboratory data, and (d) special tests such as X rays and electrocardiograms.

knowing through

94.

In your English dictionary, you'll find words beginning with *gnos*. They come from the Greek word *gnosis*, meaning knowledge. *Dia* means through. Therefore, *dia/gnosis* literally means _____.

diagnosis
dī ag nō' sis

95.

Diagnosing an illness means studying it through its signs and symptoms and other available information. When a patient reports chills, feels hot, and has a runny nose, the physician may identify the patient's illness as a head cold. This conclusion would be the _____.

diagnosis

96.

A patient complains of pain in her arm after falling off her horse. An X ray shows a broken bone in her forearm. With this information from an X ray, the physician arrives at a _____.

identification of a
patient's illness
through blood
(studies)

97.

What do you think hemodiagnosis means? _____

_____.

98.

Many diseases are complex, so establishing the cause and nature of a sick person's disease requires skill and scientific methods. Which of the following might a physician use to help identify an illness? Check one or more.

all are relevant

- _____ personal and family history
- _____ signs and symptoms
- _____ laboratory data
- _____ special tests, such as an X ray or ECG

107.

A diagnosis may specify that the disease is acute, chronic, or paroxysmal.

Acute means sharp, severe, having a rapid onset and a short course, not chronic.

paroxysm
par' ok sizm
and
paroxysmal
par ok siz' mal

Chronic means long, drawn out. A chronic disease is not acute.

Paroxysmal is from the Greek word *paroxysm*. It means a sudden periodic attack or recurrence of symptoms of disease, a fit or convulsion of any kind.

108.

Diabetes is a disease that has a long, drawn-out course. Therefore, diabetes is a _____ disease.
(acute/chronic/paroxysmal)

chronic
kron' ik

109.

Epilepsy is characterized by a sudden onset of symptoms that recur periodically. Therefore, epilepsy is a _____ illness.
(acute/chronic/paroxysmal)

paroxysmal
par ok sis' mal

110.

Dys/pnea means difficult breathing. Paroxysmal dyspnea is another way to describe asthma. Explain paroxysmal dyspnea. _____
_____.

suddenly recurring
episode of difficult
breathing

111.

Gastritis may be acute or chronic. Acute gastritis means inflammation of the _____. Its onset is _____,
(rapid/slow)

stomach
rapid

the pain in the belly is _____, and the illness lasts a
(mild/severe)

severe

_____ time.
(short/long)

short

112.

A patient has a sudden onset of fast heart rate—in excess of 200 beats per minute—and then abruptly the heart rate returns to normal. This has occurred before. The diagnosis would be

paroxysmal tachy/cardia

_____ / _____
(acute/chronic/paroxysmal) rapid heart

- chronic 113.
Arteriosclerotic heart disease (ASHD) has a very slow onset. Symptoms may be mild and last a lifetime. ASHD is a/an _____ condition.
- inflammation that has a slow onset (may be mild) and lasts a long time 114.
Inflammatory conditions may be either acute or chronic. Acute tendonitis means the tendon becomes red, hot, and very painful in a few hours. It returns to normal after a day or two of treatment.
Describe chronic tendonitis: _____

- paroxysm
par' ok sizm 115.
A fit or convulsion is a/an _____.
- chronic A long, drawn-out disease is described as _____.
- acute Sharp, severe symptoms, over a short course, describes a/an _____ disease.
- an inflammation of many nerves, a rapid onset; very painful, short duration 116.
Poly- is a prefix meaning many or much; excessive. Explain each of the following:
Acute polyneuritis means _____

- an inflammation of many joints that starts slowly and lasts a long time Chronic polyarthritis _____

- a condition of having supernumerary fingers (or toes) Polydactylism _____

- a group of symptoms running along together 117.
Syndrome is a group of symptoms that occur together and thus characterize a specific disease.
Syn means together; *drome* means running along. Therefore, syndrome literally means _____

118.
 For example, Korsakoff's syndrome is a psychosis, ordinarily due to chronic alcoholism. It is characterized by polyneuritis, disorientation, insomnia, muttering delirium, hallucinations, and a bilateral wrist or foot drop. Korsakoff's syndrome is characterized by this group of symptoms that occur _____.
- together
119.
 A syndrome is a variety of symptoms occurring together. When symptoms run along together, they present a complete picture of the disease. This is known as a _____.
- syndrome
 sin' drōm
120.
 Alcoholism produces a characteristic group of symptoms called Korsakoff's syndrome. From the name we know that a variety of _____ occur _____.
- symptoms
 together
121.
 A group of symptoms occurring together characterize a specific disease. We call this group of symptoms a _____.
- syndrome
122.
 Recurrent (and usually progressive) hearing loss, tinnitus, vertigo, and a sensation of fullness in the ears is known as Ménière's _____.
- syndrome
- the symptoms run
 along together
- Explain why: _____
 _____.
123.
 Pro/drome means running before (a disease). A symptom or group of symptoms may occur a few hours or a few days before the onset of the disease. These early signals are called its _____.
- prodrome
 prō' drom
124.
 The prodromal phase of a disease is the interval between the earliest symptoms and the appearance of a rash or fever. These symptoms occur _____ the onset of the disease.
 (before/after)
- before
125.
 Sneezing that comes before the chills and fever of a common cold is the _____ of the cold.
- prodrome

prodrom (al) prō drō' mal	126. Malaise, anorexia, and sore throat occur one to four days before the fever and rash of measles appear. This early stage of the disease is called the _____al phase.
	127. It's time to review what you just covered. From the suggested answers, select the best term for each brief definition.
	asymptomatic acute prognosis prodromal chronic diagnose syndrome paroxysm
diagnose	to identify an illness, _____.
paroxysm	a sudden, recurrent attack, _____.
acute	pertaining to severe symptoms and rapid onset, _____.
prognosis	prediction of course and outcome of illness, _____.
syndrome	symptoms occurring together as a disease, _____.
asymptomatic	relating to symptom free, _____.
chronic	pertaining to a long, drawn-out illness, _____.
prodromal	earliest phase of signals and symptoms occurring before the onset of the fever or rash associated with a disease _____.
	128. Using scientific and skillful methods of investigation, a physician gathers information about a patient's illness in order to learn the cause and nature of a sick person's disease. Identification of the illness is called a _____.
diagnosis	

Treatment

Treatment is the medical, surgical, or psychiatric management of a patient's illness. Although there are many different kinds of treatments, we're covering only a few of the most common.

active	129. Active treatment aims for a cure. A patient suffering from appendicitis expects to be cured after an appendectomy. Since surgery removes the patient's appendix and usually cures the patient's disease, it is an _____ treatment.
--------	--

- active 130. An antibiotic attacks the bacteria causing peritonitis. Therefore, antibiotic therapy is considered an _____ treatment.
- systemic 131. Systemic treatment attacks constitutional signs and symptoms such as pyrexia, shock, and pain. Treatment directed toward control of these life-threatening signs is called _____ treatment.
sis tem' ik
- life-threatening or 132. Giving a patient morphine for pain is a systemic treatment that aims to relieve a _____ sign or constitutional symptom.
- systemic 133. Hyperpyrexia is a constitutional sign. Placing a hyperpyrexic child in a basin of ice water reduces the whole body temperature and is therefore a _____ treatment.
- palliative 134. Palliative treatment relieves bothersome symptoms and makes a patient comfortable. Very little the physician can do alters the course of poison ivy dermatitis. The physician may suggest calamine lotion to reduce itching and burning, and therefore, calamine is called a _____ treatment.
pal' ē a tiv
- prophylactic 135. Prophylaxis is a treatment modality that focuses on prevention of disease. Your dentist aims to prevent dental caries by applying flouride solution to your teeth. Flouride application is called a _____ treatment.
prō fi lak' tic
- treatments 136. Whether active, symptomatic, palliative, or prophylactic, things the physician does or prescribes to manage a patient's illness are called _____.
- relieve symptoms 137. Palliative treatment addresses a patient's comfort rather than attempting to cure the disease. The purpose of this kind of treatment is to _____.

138.
 Active treatment squarely addresses the patient's pathological condition. The physician elects an active treatment modality when a remedy or therapy will _____ the disease.

cure
 kyōōr

139.
 Shock, pyrexia, and pain are indications of disease, which if not treated could have very serious consequences. Systemic treatment is directed toward very serious constitutional signs of illness which may be _____.

life-threatening

140.
 From the terms listed, select one that best fits each description.

	active	palliative
	prophylactic	systemic

systemic Treatment of constitutional symptoms, _____.

active Treatment directed specifically toward a cure, _____.

palliative Treatment to relieve discomfort, _____.

prophylactic Treatment aimed at preventing disease, _____.

141.
 There are many remedies and therapies a physician may use to treat a patient's illness. Here are a few of the major classes for you to investigate. Look up therapy in your medical dictionary.

pharmacotherapy	radiotherapy
physical therapy	electroshock therapy
chemotherapy	psychotherapy

Statistics

In medicine and health care, many people keep score. The Health and Human Services Agency (HHS) of the U.S. government and the World Health Organization (WHO) of the United Nations publish statistics showing how many people are affected by certain diseases and how many people die of their illnesses. In order to understand the statistics, there are two important terms to know: *morbidity* and *mortality*.

morbidity (or sickness)
mor bid' i tē

142.
Morbidity means a diseased state. A statistic that reports, “50 cases of measles per 10,000 people living in the United States last year” is called a _____ rate.

mortality (or death)
mor tal' i tē

143.
Mortality means the state of being mortal and, therefore, subject to death. In other words, mortality is a statistic that reports the _____ rate.

all three are mortality statistics

144.
Which of the following examples expresses a mortality rate? Check each correct example.

a. _____ From 198X to 199X, 3 million people were killed in automobile accidents on U.S. highways.

b. _____ Hepatitis took the lives of 20 people of every 1,000 in Ethiopia in 198X.

c. _____ Thirty thousand children around the world died of leukemia in the last five years.

death

145.
The mortality rate is the same as saying the _____ rate.

sickness or disease

146.
The morbidity rate is expressed as the number of cases of a specific disease found in a specific unit of population during a specific period of time. It shows the rate of _____.

a. reports rate of sickness

147.
Which of the following examples is a morbidity rate? Check each correct example.

a. _____ In 198X, there were 550 new cases of tuberculosis reported for every 100,000 people living in the United States.

b. _____ In 198X, there were 30 deaths from suicide for every 10,000 people between 35 and 55 years of age living in Colorado.

morbidity rate

148.
A statistic that reports the number of cases of a disease in a specific population for a specific period of time is called _____.

mortality rate 149. A statistic that reports the death rate is called _____.

morbidity refers to the rate of illness; mortality refers to the death rate 150. What is the difference between a morbidity and a mortality statistic? _____.

151.

In this unit you worked with many new terms and learned to use some familiar words in new ways. Fifty of these words are listed here for you to practice your pronunciation and to review their meanings. Pronounce each term, think about its meaning, and then take the Unit 7 Self-Test.

acute (a kūt')	morbidity (mor bid' i tē)
anorexia (an o rek' sē ə)	mortality (mor tal' i tē)
antipyretic (an tē pī ret' ik)	nausea (naw' zē ə)
asymptomatic (ā simp tō mat' ik)	palliative (pal' ē ə tiv)
atrophy (at' rō fē)	paroxysmal (par ok sis' mal)
bradypnea (brad' ip nē ə)	peripheral (per i' fer al)
central (sen' trul)	pneometer (nē om' ə ter)
Cheyne-Stokes respiration (chān-stōks)	polyarthritis (pol' ē arth rī' tis)
chlorocyte (klor' ō sīt)	prodromal (prō drō' mal)
chronic (kron' ik)	prognosis (prog nō' sis)
cyanoderma (sī ə nō der' mā)	prophylactic (prō fi lak' tic)
diagnosis (dī ag nō' sis)	pulse (pultz')
dyspnea (disp' nē ə)	pyretolysis (pī ret ō lī' sis)
edema (e dē' mā)	pyrexia (pī rek' sē ə)
emesis (em' ə sis)	respiration
erythremia (er i thrē' mē ə)	symptom
generalized	symptomatic
hematemesis (hē mā tem' ə sis)	syndrome (sin' drōm)
hyperpnea (h perp' nē ə)	systemic
hyperpyrexia (hī per pī rek' sē ə)	tachypnea (tak ip nē' ə)
hypothermia (hī pō ther' mē ə)	temperature
leukocyte (lōō' kō sīt)	tinnitus (ti nī' tus)
localized	vertigo (ver' ti gō)
malaise (mä lāz')	vital signs
melanocarcinoma (mel' ə nō kär sin ō' mā)	xanthopsia (zan thop' sē ə)

Unit 7: Self-Test

Part 1

From the list on the right, select the correct meaning for each of the following medical terms.

- | | |
|-----------------------|--|
| _____ 1. Diagnosis | a. Pertaining to the whole body, all systems |
| _____ 2. Systemic | b. Very fast breathing |
| _____ 3. Morbidity | c. Identification of an illness |
| _____ 4. Pyretolysis | d. Fluid in the tissues |
| _____ 5. Edema | e. Pertaining to disease rate statistic |
| _____ 6. Generalized | f. Temperature, pulse, and respiration |
| _____ 7. Anorexia | g. Reduction of fever |
| _____ 8. Vertigo | h. A sickness of the stomach; desire to vomit |
| _____ 9. Hyperpnea | i. Pertaining to the whole body, many different parts at the same time |
| _____ 10. Malaise | j. Wasting away, or underdevelopment |
| _____ 11. Paroxysm | k. Loss of appetite |
| _____ 12. Vital signs | l. Sensation of turning around in space |
| _____ 13. Syndrome | m. Vague sensation of not feeling well |
| _____ 14. Nausea | n. Pertaining to sudden periodic attack |
| _____ 15. Atrophy | o. Symptoms occurring together |

Part 2

Complete each of the medical terms on the right with the appropriate missing part. Some terms are missing all parts!

1. Ringing in the ear _____
2. Artery throbbing in time with the heartbeat _____
3. Respiratory arrest, not breathing _____
4. Outside surface of the body _____
5. Pertaining to preventing disease _____
6. Sudden recurring attack _____
7. Symptom-free _____
8. Breathing that reaches a climax, then ceases before beginning again C_____ -S_____ respiration
9. Pertaining to relieving symptoms but not the disease _____
10. Patient perceives change in body or functions _____
11. Prediction of course and outcome of a disease _____
12. Pertaining to severe symptoms, rapid onset, short course _____
13. Reddened skin _____
14. Subnormal body temperature under 90°F _____
15. Feverishness _____

ANSWERS**Part 1**

1. c
2. a
3. e

Part 2

1. Tinnitus
2. Pulse
3. Apnea

- | | |
|-------|------------------------------|
| 4. g | 4. Peripheral |
| 5. d | 5. Prophylactic |
| 6. i | 6. Paroxysm |
| 7. k | 7. Asymptomatic |
| 8. l | 8. Cheyne-Stokes respiration |
| 9. b | 9. Palliative |
| 10. m | 10. Symptom |
| 11. n | 11. Prognosis |
| 12. f | 12. Acute |
| 13. o | 13. Erythroderma |
| 14. h | 14. Hypothermia |
| 15. j | 15. Pyrexia |

8 **Growth and Development, and Body Orientation**

In this unit you will work with terms relating to growth and development of an embryo and other kinds of growing things. You'll cover terms that provide an orientation to the body, something like a road map, to make anatomical descriptions meaningful.

Mini-Glossary

cyst	benign	distal
lesion	infiltration	dorsal
polyp	malignant	lateral
papilla	metastasis	medial
papilloma	neoplasm	proximal
papule		ventral

ecto-, exo- (outer side)
end-, endo- (inner, within)
meso- (middle)
circum- (around)
peri- (around about)

epi- (over, surrounding)
sub-, hypo- (below, under)
supra-, super- (above, over)
infra- (below, beneath)

Have you completed the Section 7 Review Sheet? We suggest you do it before you begin. It will really help you learn.

Growth and Development

1.

Blastos refers to a germ, seed, sprout, or bud. A *blastoderm* is an aggregation of cells showing the first trace of structure in a microscopic organism. It is the most rudimentary form of a developing embryo and is made up of three primary germ cell layers: the *ectoderm*, *endoderm*, and *mesoderm*. From these primordial germ layers the embryo develops and becomes a fetus.

2.

Review these definitions and return to them as you need help with the frames that follow.

Ectoderm is the outer layer of cells in the primary germ layers of the developing embryo. It is the origin of:

- the skin (epidermis)
- the mucous membranes of nose, mouth, and anus (epithelium)
- nervous tissue and sensory organs

Mesoderm is the middle of the three primary germ layers of the embryo. It is the origin of:

- all connective tissues
- all body musculature
- blood, cardiovascular and lymphatic systems
- most of the urogenital system
- the lining of the pericardial, pleural, and peritoneal cavities

Endoderm is the innermost of the three primary germ layers of the embryo, from which are derived:

- the lining of the gut
- its glands (spleen, pancreas, liver)
- component structures of the gut (esophagus, stomach, intestine, colon)
- the respiratory tract

3. Ectoderm is the outer layer of cells. Endoderm is the innermost of the three germ layers. Mesoderm is the middle layer of three primary germ layers in the developing embryo. Write a meaning for each of the prefixes:

inner, inside
middle
outer, outside

endo- means _____.
meso- means _____.
ecto- means _____.

4. Which primary germ layer originates all connective tissues and all body musculature? _____.

mesoderm
mēz' ō derm

5. The pleura is a watery, mucoid-surfaced membrane enveloping the lungs and lining the walls of the thoracic cavity. From which germ layer does it arise? _____.

mesoderm

6. Which of the three embryonic germ layers gives rise to the nervous system and the organs of special sense? _____.

ectoderm
ek' tō derm

7. The primitive gut tract and its associated glands (organs) develop from which germ layer of the embryo? _____.

endoderm
en' dō derm

8. The skin, including mucous membranes exposed to the environment, is derived from the primary germ layer called the _____.

ectoderm

9. The innermost of the three primary germ layers of the embryo is the _____. The outside layer of cells in the embryo is the _____. The middle of the three primary germ layers is the _____.

endoderm
ectoderm
mesoderm
mēz' ō derm

10. Now let's try out those new prefixes. Write a meaning for each of the following:

of, or pertaining to
outside the cell

ectocytic _____
_____.

inflammation of inside of the heart _____
 examination by looking inside of (a body cavity) _____
 examination of inside the bladder _____

11.
 Gen/o is the combining form to denote originating or production.

Ectogenous means originating outside of a cell or an organism.
 Underline the part of the term meaning originating or produced.

ectogenous
 ek toj' en us
 originating or produced
 inside of (a cell)
 en doj' en us

Ectogenous _____
 What does endogenous mean? _____

12.
Topos, *top/o* means place or location. Sometimes a pregnancy begins in the fallopian tube instead of within the uterus. It is called an ectopic pregnancy.

pregnancy outside of its normal location

What is an ectopic pregnancy? _____

ectopic
 ek top' ik

13.
 A pregnancy beginning in the abdominal cavity instead of the womb is called an _____ pregnancy.

14.
 Let's review before going on. From the suggested answers, select the best term for each brief definition.

SUGGESTED ANSWERS:

- | | |
|-------------|------------------|
| ecto-, exo- | endo-, en-, end- |
| ectopic | endocranial |
| ectocytic | endogenous |
| meso- | mesoderm |

ecto- (exo-) outside (prefix), _____
 meso- middle (prefix), _____
 endo- (en- or end-) inside (prefix), _____

mesoderm	middle germ cell layer, _____.
endogenous	originating inside, _____.
ectocytic	pertaining to outside the cell, _____.
ectopic	out of its normal place, _____.
endocranial	pertaining to inside the head, _____.

Growths and Other Abnormal Tissues

15.

In this section you'll work with more terms relating to growth. Growing means to increase progressively in size. However, growth may be normal and purposeful, or abnormal and useless. Here are some terms used to describe abnormal growth.

16.

neoplasm
nē' ō plazm

Neo- means new; *-plasm* means thing formed. Neoplasm is a new formation of tissue. It is abnormal because it serves no useful function and grows at the expense of a healthy body. Any tissue growing autonomously and that has no useful function is a _____.

17.

neoplasm

A tumor is a swelling or enlargement. It is an autonomous new growth of tissue. It is a mass of tissue without a function. Another word for tumor is _____.

18.

growth of tissue that
serves no useful
purpose

Neoplasm and tumor are interchangeable terms. They both mean an autonomous new _____.

19.

tissue
examines

Bio- means life; *-opsy* means appearance, sight. A biopsy is removing tissue from a living body and examining it under a microscope.

To make a diagnosis, a physician usually biopsies a tumor or neoplasm. This means the physician removes a piece of living _____ and _____ it under a microscope.

20.

A neoplasm (tumor) growing in or on the human body can be classified as either malignant or benign.

Malignant means it's of a bad kind, growing worse, resisting treatment, and tending or threatening to produce death.

benign
 bē nīn'
 malignant
 ma lig' nant

Benign means it's mild (grows slowly), not spreading, not recurrent, and not malignant. Tumors may be of uncertain behavior, but usually are classified either as _____ or _____.

21.
 To determine what kind of neoplasm a patient has, the physician removes a piece of the living tumor tissue and examines it under a microscope. What is this procedure called? _____.

biopsy

22.
 A biopsy report indicates a patient's abnormal growth is of a bad kind. It will grow worse (rapidly), resist treatment, and tend to be life-threatening. The diagnosis is _____ neoplasm.
 (malignant/benign)

malignant

23.
 A nonmalignant neoplasm is an abnormal tissue mass growing slowly, not spreading, and not likely to recur. The growth is _____.
 (malignant/benign)

benign

24.
 A procedure that determines whether a neoplasm is benign or malignant is a _____.

biopsy

25.
 A malignant neoplasm is a bad kind that grows _____,
 (fast/slowly)
 resists treatment, and threatens to cause _____.

fast
 death

26.
 A benign neoplasm is mild (grows slowly), does not spread or recur, and is not _____.
 (the other kind)

malignant

27.
Infiltration means slipping into and between normal cells of the body.

Malignant tumor cells may spread by slipping into and between normal body cells. Malignant cells multiply rapidly and take up nourishment and space, crowding out the normal cells. This method of spreading is called direct extension or _____.

infiltration

28.

Metastasis means movement of cells (especially cancer cells) from one part of the body to another.

Meta- means after, beyond, among, over; *-stasis* means a standing, a location, or place.

metastasis
me tas' tə sis

Malignant tumor cells migrate to another location and take up a standing in another organ or part of the body. This method of spreading the disease is called invasion by _____.

29.

Metastasis is the movement of malignant tumor cells from the primary location over to another _____.

location

30.

There are two methods by which a malignant neoplasm spreads, grows larger, and becomes more threatening. Malignant cells may slip into and between normal cells. This is called _____. Or tumor cells may move beyond the primary site and take up a standing in another location of the body. This spreading method is called _____.

infiltration or direct
extension

metastasis

31.

Unlike malignant neoplasms, benign growths do not spread by _____ or _____.

infiltration
metastasis

32.

Here's a quick review. Select a term from the suggested answers that best fits each brief definition. Write your selection in the space provided.

malignant	neoplasm/tumor
tumor/neoplasm	biopsy
benign	infiltration
metastasize	

biopsy

remove tissue for examination, _____.

benign

slow growth, not malignant, _____.

neoplasm/tumor

new, abnormal tissue mass, _____.

tumor/neoplasm

tissue mass, no useful purpose, _____.

malignant

fast-growing, threatening death, _____.

infiltration slipping into and between normal cells, _____.
 metastasize
 (me tās' tə sīz) cells relocate to new location, organ, _____.

33.
 There are many other terms that mean abnormal conditions, changes, or growths. Here are a few of the more common ones.

34.
Lesion is an area of unhealthy (morbid) tissue, such as an injury, wound, burn, or infected patch of skin.

lesion Any morbid change in the structure of an organ or a body part due
 lē' zhun to injury or disease is called a _____.

35.
 An infected finger is a lesion because there has been a morbid change in the finger tissues. What does morbid mean?
 _____.

diseased, unhealthy

36.
 In Alzheimer's disease there are morbid changes in brain tissue. These unhealthy changes in brain structure are also called _____.

lesions

37.
 An injury, a burn, and an infected finger are examples of lesions because the part of the body involved has undergone a _____ change. (unhealthy)

morbid

38.
 A lesion is any morbid change in the structure of an organ or part due to injury or disease. Check each item that is *not* a lesion.

chicken pox is a disease; the pox are lesions

- duodenal ulcer
- skinned knees
- scalding burn of the hand
- abrasion of the elbow
- chicken pox
- infected toenail

39.
 Poison ivy leaves may irritate the skin and cause blisters. These unhealthy changes in the structure of the skin are called _____.

lesions

- lesion 40. Build a word meaning a hurt, an injury, or any unhealthy area of any organ or part: _____.
- unhealthy, diseased 41. What does morbid mean? _____.
- inflammation of the bladder 42. In earlier units you learned that cyst means bladder. Cystitis means _____.
- examination of the inside of the bladder Endocystoscopy means _____.
- excision (or removal) of the gallbladder Cholecystectomy means _____.

- sac 43. *Cyst* also means a closed sac or pouch that contains fluid, semifluid, or solid material. A cyst is a closed _____.
- fluid, semifluid, or solid material It contains _____.



Figure 8.1 Cyst

- cyst 44. A malfunctioning ovary may develop a closed sac or pouch containing fluid. This is called an ovarian _____.
- a cyst containing fluid (water) 45. What is a hydrocyst? _____.
- a sac that contains fluid or even solid material Cyst means _____.

cystectomy 46. A physician doesn't usually drain a cyst of its contents because it only would fill again. Instead, a surgeon completely excises the cyst. Write a term meaning surgical removal of a cyst: _____.

pol' ip malignant 47. *Polyp* is a tumor with a little foot, or stem. A polyp is usually a benign tumor. That means it is not _____, (the other kind)



Figure 8.2 Polyp.

slowly infiltration metastasis it grows _____, (fast/slowly), and it does *not* spread by _____ or _____.

foot 48. A polyp is a specific type of tumor or neoplasm. It's an abnormal, useless new growth that stands on a stem or a little _____.

polypectomy 49. Vascular organs such as the nose, uterus, and rectum commonly develop polyps. Polyps bleed easily and usually are removed surgically. Build a word for excision of polyps: _____.

What does vascular mean? This is a good time to use your dictionary.

unhealthy 50. A lesion is an area of _____ tissue.
Give some examples of lesions: _____
burn, injury, infection _____.

bladder
a sac containing fluid or
semifluid

51.
Cyst has two different meanings.

Cyst means _____.
a part of the body

Cyst also means _____.
an abnormality

tumor/neoplasm
little foot, or stem

52.
A polyp is a specific kind of _____.
A polyp has a _____.

53.
Papilla is a small nipplelike protuberance or elevation. It may be located anywhere on the body, and may be normal or abnormal.

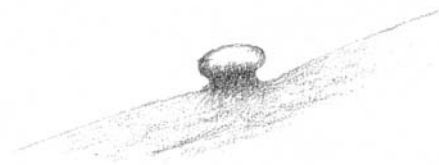


Figure 8.3 Papilla.

small, nipplelike
structures

Taste buds are small nipplelike structures on the surface of the tongue. They account for the four fundamental taste sensations: sweet, bitter, sour, and salt. Stand in front of a mirror; stick your tongue way out. You will see papillae (plural) on the back of your tongue. Describe them: _____.

papilla
pa pil' ə

54.
The nipple of the mammary gland (breast) is called a mammary _____.

pap i lō' mā
nipplelike

55.
Papilloma is a hypertrophied papilla covered by a layer of skin. What is the shape of a papilloma?
_____.

pap' yōōl

56.
Papule is a pimple. It's a red elevated spot on the skin. It's solid and circumscribed. Papular lesions appear on the skin in smallpox, measles, and chicken pox.

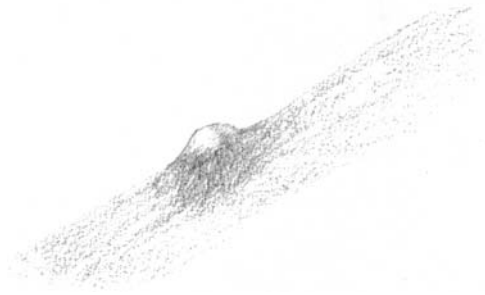


Figure 8.4 Papule.

spots
circumscribed

They are elevated red _____ on the skin.
They are solid and _____.

57.

Excrescence: *ex* means out; *crescence* means to grow. Excrescence is a useless structure growing out of the surface of a part such as a wart or mole.

excrescence
eks kres' ens

The Wicked Witch of the West had a big wart growing on the tip of her nose. A medical term for this disfiguring outgrowth is _____.



Figure 8.5 Excrescence.

58.

Condyloma is a wartlike growth of the skin, usually occurring near the anus. The main difference between an excrescence and a condyloma is where the lesion is located. An excrescence may appear anywhere on the surface of the body (even on the end of your nose). But a wartlike skin growth near the anus is called a _____.

kon di lō' mä
condyloma

59.

An excrescence, a papilloma, a condyloma, and a papule are all lesions of the skin. That means the area of the skin involved is considered _____.

morbid, unhealthy

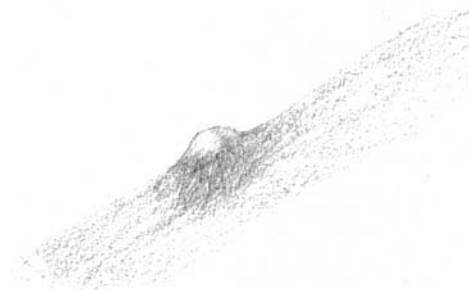
pa pil' ē (pl.)
small, nipplelike
protuberance

60.
Papillae (plural) may be normal structures on the body that have important functions. A taste bud is a papilla. Describe what it looks like: _____.

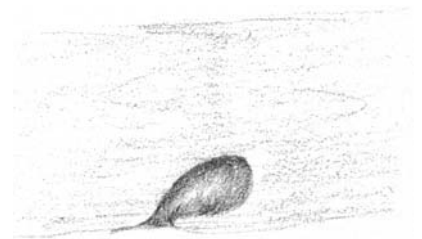
(For help in learning the plural forms, see Appendix B: *Forming Plurals*.)

61.
Label each of the following illustrations.

a. papule
b. polyp



a. _____

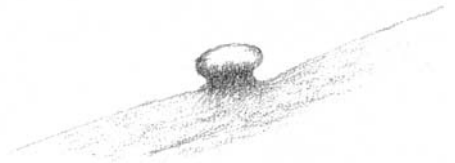


b. _____

c. cyst
d. papilloma



c. _____



d. _____

Figure 8.6

62.
Complete each definition.

SUGGESTED ANSWERS

papillae	condyloma
excrescence	lesion
polyp	papule
cyst	

lesion (lē' zhun)
polyp (pol' ip)
condyloma
(kon di lō' mä)

area of unhealthy (morbid) tissue, _____.
tumor on a stem or little foot, _____.
wartlike growth around the anus, _____.

cyst (sist) bladder, or a closed sac with fluid, _____.
excrescence useles outgrowth, like a wart, _____.
(eks kres' ens)
papillae (pa pil' ē) nipplelike protuberances, _____.
papule (pap' yool) small, elevated red lesion on the skin, _____.

63.

Here's an independent learning exercise for you. These are words related to treatments and consequences of malignant neoplasms. Look up each one in your medical dictionary. Explore it thoroughly; pronounce it several times. Then write a brief definition for each. Do this exercise even if you think you know what the terms mean. Sometimes you'll be surprised!

abdominal paracentesis

alopecia

anastomosis

cauterization

chemotherapy

dehiscence

necrobiosis

radiation

radical resection

Orientation

64.

Neoplasms, cysts, and lesions occur anywhere on the surface of the body and inside, under, and around organs and structures. Physicians use specific terms to describe where lesions and other morbid conditions are located relative to parts of the body.

65.

Ventral means on or near the belly, or the side of the body where the belly is located.

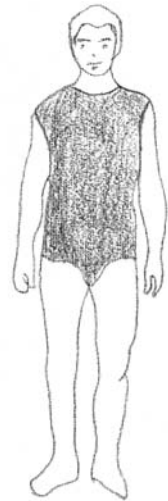
back

Dorsal is the opposite of ventral; it means on or near the _____.

Label the illustrations.



a. _____



b. _____

- a. dorsal
- b. ven' tral
- ven' tral

Figure 8.7

66.

Ventral, ventr/o means on or near the _____. Dorsal, dors/o means on or near the _____.

belly
back

67.

Try these.

backache

Dorsalgia means _____.

incision into the belly

Ventrotomy means _____.

68.

of or pertaining to belly
to back

What do you think ventrodorsad means? _____
_____.

ventrodorsad
ven trō dor' sād

A bullet penetrated the abdominal wall, traveled through the belly, and exited through the back. The bullet's path may be described as _____.

69.

The *midline*, or median, is an imaginary line dividing the body into right and left halves.

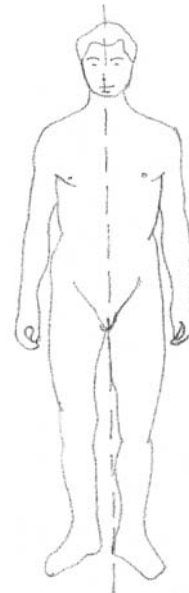


Figure 8.8 Midline of the Body.

Lateral means farther from the midline.

Medial means the opposite.

nearer

Medial means _____ to the midline.

nipple

Which is nearer the midline, your shoulder or your nipple?
_____.

70.
 lateral Which corner of your eye is nearest your ear? _____.
(medial/lateral)
- medial Which side of your knee knocks the other knee? _____.
(medial/lateral)
71.
 farther Lateral means _____ from the midline.
 nearer Medial means _____ to the midline.
 on the midline Where is your umbilicus located? _____.
72.
 nearest Let's describe a relative position in another way. *Distal* means remote, or farthest, from the point of attachment to the trunk.
Proximal means the opposite. Proximal means _____ to the point of attachment to the trunk.
(farthest/nearest)
73.
 hand Which is distal, your elbow or your hand? _____.
 proximal On which end of your finger do you wear a ring? _____.
(distal/proximal)
74.
 distal Your forearm bone has two ends. Your hand is attached to the _____ end.
(distal/proximal)
- proximal Your upper arm is located on the _____ end.
(distal/proximal)
75.
 proximal A part of the body located nearest its attachment to the trunk is described as _____.
- distal A part located farthest from its attachment to the trunk is described as _____.
76.
 farthest from the attachment to the trunk The fingers are distal to all other parts of the arm. What does distal mean? _____.

77.
 nearest to the attachment to the trunk
 Describe the location of a part that is proximal:

 _____.

78.
 Here's a review of what you just covered. Select the best term from the suggested answers to complete each definition.

SUGGESTED ANSWERS:

- distal proximal
- medial lateral
- ventral midline
- dorsal

dorsal near, or on the back, _____.

ventral near, or on the belly, _____.

midline divides body into right and left halves, _____.

lateral farther from the midline, _____.

medial nearer to the midline, _____.

distal farthest from the attachment to the trunk, _____.

proximal nearest to the attachment to the trunk, _____.

79.
 Here are some prefixes indicating place or relative position:

Peri-, *circum-* means around, about, surrounding,

Write a meaning for each of the following:

pertaining to around the tonsil Peri/tonsillar _____
 _____.

relating to around the belly button Peri/umbilical _____
 _____.

80.
 diseased (unhealthy) tissue around the teeth
 What is peri/dent/al (peri/dont/al) gum disease? _____
 _____.

around Peri- means _____.

around	81. Circum- is another prefix meaning _____. <i>Duct/ion</i> means moving.										
moving around	Ab/duct/ion is moving away. Circum/duction means _____.										
circum(-scribed)	82. A wheal (hives) is a round patch of unhealthy skin with a ring of normal tissue at its circumference. A wheal appears as a round red spot. We usually say a wheal is _____-scribed.										
circumscribed	83. A boil also has an outer limit where the circumference of the lesion becomes normal. Because it appears to have a border around its circumference, you may also describe a boil as a _____ lesion.										
relating to around the mouth	84. Perioral and circumoral have the same meaning. Write the meaning: _____.										
pertaining to around or surrounding the kidney	Write a meaning for circumrenal, perirenal: _____.										
	85. Look over the following terms and their meanings and then complete the frames that follow. Come back to this frame whenever you need help.										
	<table border="0" style="width: 100%;"> <tr> <td style="padding-right: 20px;"><i>Epi-</i></td> <td>upon, over (surrounding or covering)</td> </tr> <tr> <td><i>Extra-</i></td> <td>without, outside of</td> </tr> <tr> <td><i>Infra-</i></td> <td>below, beneath, under</td> </tr> <tr> <td><i>Sub-, hypo-</i></td> <td>below, beneath, less than normal</td> </tr> <tr> <td><i>Supra-, super-</i></td> <td>above, superior, in the upper part of</td> </tr> </table>	<i>Epi-</i>	upon, over (surrounding or covering)	<i>Extra-</i>	without, outside of	<i>Infra-</i>	below, beneath, under	<i>Sub-, hypo-</i>	below, beneath, less than normal	<i>Supra-, super-</i>	above, superior, in the upper part of
<i>Epi-</i>	upon, over (surrounding or covering)										
<i>Extra-</i>	without, outside of										
<i>Infra-</i>	below, beneath, under										
<i>Sub-, hypo-</i>	below, beneath, less than normal										
<i>Supra-, super-</i>	above, superior, in the upper part of										
pain in the area of the belly over the stomach	86. The epi/gastric region is the region of the belly over or upon the stomach. Refer to Illustration 8.9. Epi/gastralgia means _____.										

hernia in the area of the belly over the stomach

Epi/gastrocele means _____

_____.

the skin (that covers the entire body)

87.
Epi/cranium refers to the tissues (muscle and skin) that cover and surround the cranium. What do you think epi/dermis means? _____
_____.

without, outside of outside the uterus

88.
Again refer to the definitions in Frame 85. The prefix extra- means _____.

outside the edges or outer limits of a structure or organ

Extra/uterine means _____.
Extra/marginal means _____
_____.

below, beneath, under pertaining to an area under, below the kneecap

89.
Again use the definitions to help you. The prefix *infra-* means _____.
Patella means kneecap. What does *infra/patellar* mean? _____
_____.

beneath, under the kneecap

Sub/patellar means _____
_____.

infra (-mammary)

90.
Infra- and sub- usually are interchangeable terms. Complete the alternate terms and write a meaning:
_____ -mammary

sub (-mammary)

_____ -mammary

below the breast

meaning _____.

under the tongue

91.
Sub- and hypo- are often interchangeable also.
Sub/lingual means _____
_____.

under the tongue

Hypo/glossal means _____
_____.

below, beneath, less than normal
 infra-,
 hypo-

92.
 The prefix sub- means _____.
 _____. What other two prefixes often are interchangeable and mean the same thing as sub- ? _____ and _____.

pertaining to below the breastbone

93.
 Sternum is the breastbone. Write a meaning for sub/sternal:
 _____.

infrasternal

Use another prefix and build another term that means the same thing: _____.

suprasternal

94.
 Build a term that means pertaining to above the sternum:
 _____.

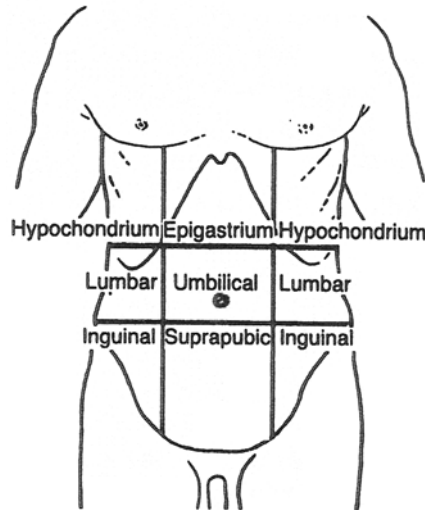


Figure 8.9 Regions of the Abdomen

95.
 Refer to Illustration 8.9 to help you complete the next few frames.

96.
 Sub/pubec refers to an area beneath the pubic arch (bone). Build a term meaning relating to the area above the pubic arch:

suprapubic
 umbilicus or belly button

_____.

Umbilical is the term meaning relating to the area that is near/ around the _____.

beneath the ribs (These floating ribs are composed mostly of cartilage) 97.
Chondros means cartilage (of ribs). Literally, hypochondrium means the area _____.

inguinal ing' gwi nal 98.
Look at Illustration 8.9, Regions of the Abdomen. Lumbar relates to the loin. It is the part of the back and sides between the ribs and the pelvis. What area is below the lumbar region? _____.

99.
Write a meaning for each of the following terms.

pertaining to around the umbilicus Peri/umbilical, _____.

relating to below the abdomen Sub/abdominal, _____.

relating to above the loin Supra/lumbar, _____.

pertaining to below the pubic arch Infra/pubic, _____.

pertaining to around the intestine Circum/intestinal, _____.

pertaining to under the skin Hypo/dermic, _____.

relating to outside the field of vision Extra/visual, _____.

pertaining to over the stomach Epigastric _____.

100.
In this unit you worked with 36 new medical terms. Practice pronouncing them. Then take the Unit 8 Self-Test.

benign (bē nīn')
biopsy
circumocular
circumscribed
condyloma (kon di lō' mā)
cyst (sist)
distal

dorsal
ectoderm (ek tō derm)
ectopic (ek top' ik)
endocystoscopy
(en dō sis tos' ko pē)
endogenous (en doj' ə nus)
epigastric (ep ē gas' trik)

excrescence (eks kres' ens)	neoplasm (nē ō plazm)
extrasensory (eks tra sen' sō rē)	papilla (pa pil' ə)
hypodermic (hī pō derm' ik)	papilloma (pap i lō' mā)
infiltration	papules (pap' yōōls)
inframammary (in fra mam' ə rē)	periumbilical
lateral	(per' ē um bil' i k'l)
lesion	polyp (pol' ip)
lumbar	proximal (prox' si mal)
malignant (ma lig' nant)	subpatellar (sub pa tel' ar)
medial	suprapubic (su pra pyōō' bik)
mesoderm (mēz' ō derm)	tumor
metastasis (me tas' ta sis)	ventral

Unit 8 Self-Test

Part 1

From the right, select the correct meaning for each of the following often used medical terms.

- | | |
|-------------------------|--|
| _____ 1. Endocystoscopy | a. Farthest point from trunk attachment |
| _____ 2. Lesion | b. Outside layer of germ cells |
| _____ 3. Circumocular | c. Not spreading, not malignant |
| _____ 4. Distal | d. Pertaining to inside the head vault |
| _____ 5. Endocranial | e. Pertaining to around the eye |
| _____ 6. Epigastric | f. Slipping into and between normal cells |
| _____ 7. Biopsy | g. Pertaining to the area over the stomach |
| _____ 8. Neoplasm | h. Cells spread to new location, organ |
| _____ 9. Ectoderm | i. Removal of tissue for examination |
| _____ 10. Metastasis | j. New, abnormal tissue formation |
| _____ 11. Malignant | k. Morbid tissue |
| _____ 12. Benign | l. Nearest the attachment to the trunk |
| _____ 13. Infiltration | m. A bad kind, tending to threaten death |
| _____ 14. Proximal | n. Occurring outside the normal place |
| _____ 15. Ectopic | o. Examination inside the bladder |

Part 2

Write the medical term for each of the following brief definitions.

1. Nipplelike protuberance _____
2. New, abnormal tissue without a purpose _____
3. Useless structure growing out of the skin (wart) _____
4. Spread of cells to new location, organ _____
5. Pertaining to on or near the back _____
6. Farthest point from trunk attachment _____
7. Closed sac or pouch containing fluid _____
8. Removal of tissue for examination _____
9. Wartlike growth around the anus Con_____
10. Slipping into and between normal cells _____
11. Not spreading, not malignant _____
12. Below the mammary gland _____
13. Tumor with a little foot _____
14. Nearest point of trunk attachment _____
15. Unhealthy, diseased area of tissue _____

ANSWERS

Part 1

1. o
2. k
3. e
4. a
5. d
6. g
7. i
8. j
9. b

Part 2

1. Papilla
2. Neoplasm/tumor
3. Excrescence
4. Metastasis
5. Dorsal
6. Distal
7. Cyst
8. Biopsy
9. Condyloma

- | | |
|-------|------------------|
| 10. h | 10. Infiltration |
| 11. m | 11. Benign |
| 12. c | 12. Inframammary |
| 13. f | 13. Polyp |
| 14. l | 14. Proximal |
| 15. n | 15. Lesion |

9 Gynecology, Pregnancy, and Childbirth

This unit covers medical terms used in gynecology, pregnancy, and childbirth. This lesson may be difficult at times, so be kind to yourself and go slowly. If you don't get the right answers the first time you work through a sequence, try again before moving on. Here are the whole terms, word roots, prefixes, and suffixes you'll work with.

Mini-Glossary

-ary (<i>of or pertaining to</i>)	amni/o, amniot/o (<i>fetal sac</i>)
-atrophy (<i>undernourished, wasting</i>)	avid/a (<i>with child</i>)
-dynia (<i>pain, painful</i>)	gyn/o, gynec/o (<i>woman</i>)
-mania (<i>madness</i>)	hyster/o (<i>uterus</i>)
-pathy (<i>disease</i>)	mamm/o (<i>breast</i>)
-phobia (<i>excessive fear</i>)	mast/o (<i>breast</i>)
	men/o (<i>menses, menstruation</i>)
	metr/o (<i>uterus</i>)
primi- (<i>first</i>)	para (<i>bear, bring forth</i>)
secundi- (<i>second</i>)	
nulli- (<i>none</i>)	pre- (<i>before</i>)
multi- (<i>many</i>)	post- (<i>after</i>)
	oligo- (<i>little, small, scanty</i>)
climacteric	episiotomy
conception	fetus
embryo	gestation

involution	perineum
labor	peritoneum
menopause	placenta
ovum	pudenda
parturition	puerperium

Do yourself a big favor. Complete the Review Sheet for Unit 8 before you tackle this unit.

Terms of Gynecology

- women
- Gyn, gynec/o* means woman. Gynecology is the study of the female reproductive organs and breasts. Simply put, it is the field of medicine dealing with diseases of whom? _____.

Before continuing, go to Illustration 4.2, The Female Reproductive Organs. Review the illustration and read again the description that follows.
 - gī' nō plas tē or jin' ō plas tē*
 plastic surgery of female reproductive organs

Gyn/o/pathic means pertaining to diseases of female reproductive organs. What do you think *gyn/o/plasty* means? _____
 _____.
 - gī ne fo' bē a*
 fear of women

Mania means madness. *Phobia* means excessive fear. Gynecomania is an abnormal sex drive and desire in the male of the species. What do you think *gyne/phobia* means? _____.
 - gynecologist*
gī ne kol' ō jist

The physician who specializes in female disorders is called a _____.
 - breast

Human beings are mammals. Mammals have glands that secrete milk for nourishing their offspring. In plain English, mammary gland refers to _____.
 - These next two terms often are interchangeable. However, we use one term more often than the other. In this lesson you'll be using the *preferred terms*. Let's see what this means:

breast	<i>Mamm, mamm/o</i> refers to mammary gland, or breast; <i>mast, mast/o</i> also refers to _____.
mam ī' tis, mast ī' tis inflammation of the mammary gland (breast) preferred	7. Mamm/itis and mast/itis both mean _____ _____ _____. Mastitis is the term used most often, so we say it is the _____ term.
ma mog' ra fē mamm/o/graphy X ray exam of the breast	8. Break down each of the following preferred terms and write its meaning. Mammography, _____ / _____ / _____ means _____ _____
mas tek' tō mē mast/ectomy surgical removal of a breast	Mastectomy, _____ / _____ means _____ _____.
mastotomy mas tot' ō mē incision into the breast	9. Using the word root or combining form, mast, mast/o, add a suffix from the list and build a preferred term. Write its meaning in the space provided. -otomy -itis -pathy M _____ means _____ _____;
mastitis inflammation of the breast	m _____ means _____ _____;
mastopathy mas top' a thē disease of the mammary gland	m _____ means _____ _____.
mastoptosis mas top tō' sis	10. Very large breasts that hang down, or droop, are described as pendulous. The suffix for hanging or drooping is -ptosis. Construct a word meaning pendulous breast: _____.

gī ne kō mas' tē a
woman's breast

11.

Here's an interesting term that doesn't follow the rules. Let's look at the parts. Gynec/o means woman; mastia means breast.

Gynecomastia literally means _____.

In actual use it means abnormally large mammary glands in the male; sometimes they secrete milk.

mam' ō gram
mammogram
X ray picture of the
breast

12.

This time use mamm, mamm/o. Build a term with each of the following suffixes and write its meaning:

-gram -ary

M _____

means _____
_____;

mam' a rē
mammary
pertaining to the
mammary gland

m _____

means _____
_____.

mam' ō plas tē
plastic surgery of the
mammary gland

13.

Mamm/o/pexy means surgical correction (fixation) of large hanging breasts. What does mamm/o/plasty mean? _____

mast' ad nī tis
mast' ad nō' ma
tumor of the mammary
gland

14.

Mast/aden/itis means inflammation of the mammary gland. Write a meaning for each of the following:

mastadenoma _____
_____;

mas tō kar cin ō' ma
cancerous tumor of the
mammary gland

mastocarcinoma _____
_____.

mas tong' kus
(any) tumor of the
breast

15.

The study or science dealing with the physical, chemical, and biologic properties of neoplasms including causation, pathogenesis, and treatment is oncology. What does mastoncus mean? _____

_____.

mast/algia
mast al' jē ə

16.
Mast/o/dynia means painful breast. Using another suffix you know, build another word that also means pain in the breast:
mast/_____.

mastopathy
mas top' a thē
gynecomastia
mastectomy
mastoptosis
mastoncus
mastopexy
mas' tō pex' sē

17.
Here's a quick review. Select a term from the suggested answers that best fits each brief definition. Write your selection in the space provided.

mastectomy	mastopathy
mastoptosis	gynecomastia
mastoncus	mastopexy

disease of the mammary glands, _____.

women's breasts (on a man), _____.

surgical removal of the breast, _____.

pendulous breasts, _____.

any tumor of the breast, _____.

surgical fixation of pendulous breasts, _____.

mammography
mammalgia
(mastodynia)
mammology
gynecophobia
mammary
mammoplasty

18.
Now try these.

mammoplasty	mammary
mammology	mammalgia (mastodynia)
mammography	gynecophobia

X ray study of the breast, _____.

painful breast, _____.

science and study of the breast, _____.

fear of women, _____.

pertaining to the breast, _____.

surgical reconstruction of the breast, _____.

19.
Mamma mē' a, you're doing very well!

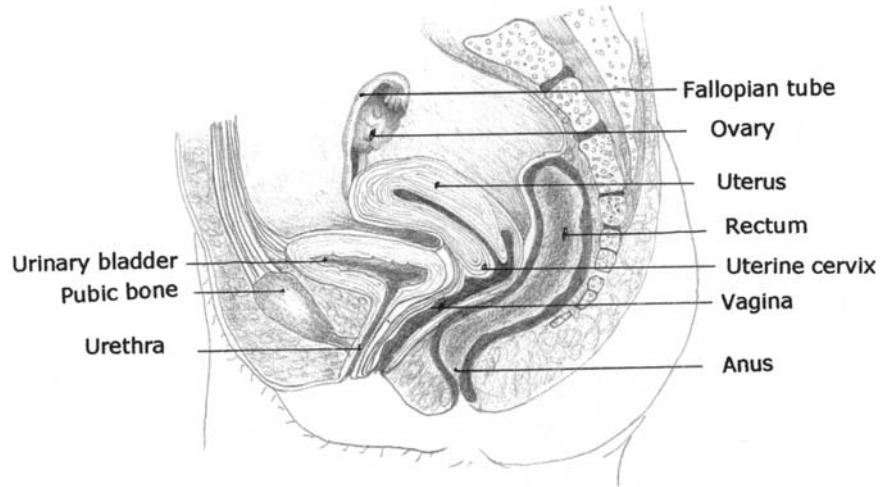


Figure 9.1 The Female Reproductive Organs (Midline Section).

See Illustration 4.2 for a description of The Female Reproductive System.

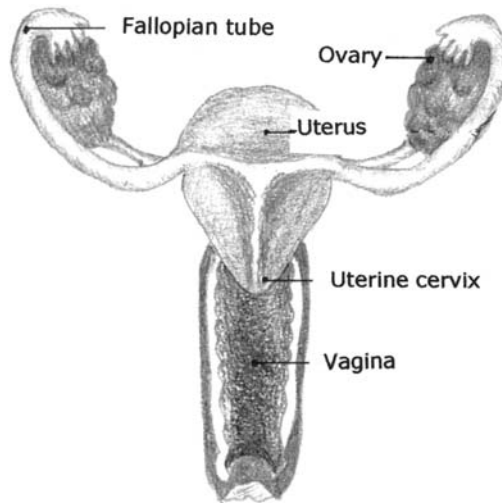


Figure 9.2 The Female Reproductive Organs (Anterior View).

ovary (oophor/o)
fallopian tube (salping/o)
uterus (hyster/o, metr/o)
uterine cervix (cerv/i)
vagina (vagin/o)

breast (mamm/o, mast/o)
menses (men/o)
muscle (my/o)
bladder (cyst/o)
urethra (urethr/o)

20.

Here are two more terms with nearly identical meanings. Refer to Illustrations 9.1 & 9.2.

uterus

Hyster, hyster/o means uterus. *Metr, metr/o* also means _____.

21.

Hyster/o usually refers to the uterus as a whole organ. *Metr/o* usually refers to the tissues of the _____.

uterus

22.

There are exceptions to the rule, but in general *hyster/o* means the uterus as a _____ organ. *Metr/o* refers to the _____ of the organ.

whole tissues

23.

Metr/itis means an inflammation of the uterine tissues (linings, muscles, etc.). *Metr/o/paralysis* means paralysis of _____.

(muscle) tissues of the uterus

24.

Hyster/o/tomy means incision into the uterus (perhaps to remove a solid tumor). *My-, myo-* means muscle. What does *hyster/o/my/oma* mean? _____.

muscle tumor of the uterus

25.

Using the word roots *hyster, hyster/o*, add a suffix from the list and build a new word. Write its meaning in the space provided:

-ectomy -pathy

hysterectomy
his ter rek' tō mē
surgical removal of the uterus

H _____
means _____;
_____;

hysteropathy
his ter op' ō thē
disease of the uterus

h _____
means _____.
_____.

26.

Try it again using metr or metr/o. Build a term and then write its meaning:

-scope -itis
 -atrophy (wasting away, diminishing in size)

metroscope
 mēt' rō skōp
 instrument for
 examining the uterus

M _____
 means _____
 _____;

metritis mē trī' tis
 inflammation of uterine
 tissues

m _____
 means _____
 _____;

metratrophy
 mē tra' trō fē
 uterine tissue atrophy

m _____
 means _____
 _____.

27.

Use the word roots metr/, metr/o with the following suffixes to make a new word that fits each of the definitions:

-orrhagia means hemorrhage
 -orrhoea means flow or discharge

metrorrhagia
 mē trō rā' jē ə

uterine hemorrhage _____;
 discharge from the uterus (mucus or pus) _____.

metrorrhea
 mē trō rē' ə

28.

Here are two suffixes that can be confusing:

-orrhexis means rupture (bursting open);
 -ocele means hernia or rupture.

The difference between them is the degree of severity of the outcome; the first has a high mortality.

Build a term meaning ruptured uterus (ruptured during labor threatening the mother's life and perhaps the infant's):

hysterorrhexis
 his' ter ō rek' sis

hyster_____.

Build a term meaning uterine hernia (to be repaired by a surgeon):

hysterocele
 his' ter ō sēl

hyster_____.

29.

Endo/metrium refers to the inside lining of the uterus.
Myo/metrium refers to the muscle layer of the uterus.

endo/myo/metritis
en dō mī ō mē trī' tis

Build a term meaning inflammation of the inside lining and muscle layers of the uterus:

_____ / _____ / _____ / _____.
inside muscle uterus inflammation

30.

Two word roots and their combining forms refer to the uterus.
They are _____ and _____.

hyster, hystero/
metr, metr/o

31.

The term meaning the whole organ is _____. The term referring to the tissues of the organ is _____.

hystero/
metr/o

32.

Now let's look at a uterine function. *Menses*, *men/o* means monthly flow of bloody fluid from the uterus. Menstruation is the function of discharging the menses. Men/o in any word should make you think of _____.

menstruation
men strū ā' shun

33.

Men/orrhoea means free flow of menses, also known as menstruation.
Dys/men/orrhoea means _____.

dis men ō rē' a
difficult or painful
menstruation

34.

Men/orrhoealgia also means _____.

me nor al' jē a
painful flow of menses

35.

Try this.

Men/o/metrorrhagia means _____

_____.

men ō mē trō rā' jē a
excessive bleeding
(hemorrhage) from
the uterus during
menstruation

36.

Menopause is a normal physiological condition of a mature woman. It's an event that ends a woman's menstrual life. This event marks the end of her childbearing period. It means the permanent cessation of _____.

menses
men' sēs

children 37. Menopause means the permanent cessation of the menses. It marks the end of a woman's capability for bearing _____.

cessation of menses, or menopause 38. *Climacteric* is a *transitional period* of life sometimes called the change of life. It is a period between ages 45 and 60 when many changes take place in a woman's body. At the end of this transitional period, she no longer experiences menstruation and is no longer capable of bearing a child. The outcome of this transitional period is called _____.

complete cessation of menses 39. During the female climacteric a key physical change takes place. The ovaries permanently and irreversibly atrophy, ending the reproductive period.

39. This *transitional period* of life is called the climacteric. The outcome of this transition period is the _____, which means _____.

climacteric 40. The *critical period* of life marking the beginning of the end of child-bearing and ending with the onset of menopause is called the _____.
 klī mak' ter ik

climacteric 41. Men also experience a decline in sexual activity in their presenile years. This *change of life period* in a man is called the male _____.

the climacteric 42. Menopause ends the body's reproductive function. What word describes the transitional period of critical changes that ends in menopause? _____.

43. It's time to review the word combinations you've learned in this section. From the suggested answers, select a term to go with each definition. Write your selection in the space provided.

	hysteropathy	mammography
	mastodynia	gynecomastia
	metrorrhagia	endometritis
gynecomastia	woman's breast (in a male), _____.	
hysteropathy	uterine disease, _____.	
mastodynia	painful breast, _____.	
endometritis	inflammation inside the uterus, _____.	
mammography	X ray examination of the breast, _____.	
metrorrhagia	uterine hemorrhage, _____.	

44.

Here are a few more.

SUGGESTED ANSWERS:

	hysterorrhexis	menorrhagia
	amenorrhea	climacteric (female)
	menopause	metratrophy
menopause	permanent cessation of menses, _____.	
amenorrhea	lack of menstruation (temporary), _____.	
hysterorrhexis	rupture of uterus (during labor), _____.	
climacteric (female)	change of life transition period, _____.	
menorrhagia	painful menstruation, _____.	
metratrophy	wasting (diminishing in size) of the uterus, _____.	

Pregnancy and Childbirth

In this section you'll learn one term at a time. First you'll read a brief paragraph defining the new term. Then you'll answer questions and complete statements about it showing you understand what it means. Feel free to refer back to the paragraph as you work through the frames that follow.

Conception means fertilization. It's an event marked by penetration of the ovum (female egg cell) by a spermatozoon (male germ cell). Conception results in a fertilized ovum. Only a fertilized ovum develops into a human being.

- fertilization or
conception 45.
Penetration of the female egg cell by the male germ cell is known
as _____.
- ovum 46.
Another term for female egg cell is _____.
- spermatozoon
(sper' ma tō zō' on) 47.
A term meaning male germ cell is _____.
- conception 47.
Union of an ovum and a spermatozoon is called _____.
- fertilized
A child will develop from an ovum only if the ovum is

Gestation is the period from conception to childbirth during which
an ovum passes through several stages of development on the way to
becoming a newborn infant. Gestation lasts approximately 9
months, or 280 days from the last menstrual period.
- pregnancy 48.
Gestation is another word for the condition known as
_____.
- gestation
jes tā' shun 49.
Pregnancy is the condition of a female after conception until the
birth of the baby. Pregnancy is another word for the period of time
called _____.
- 9
280 49.
Gestation is the process of developing an ovum into a child. It takes
approximately _____ months, or _____ days.
- gestation
pregnancy 50.
An ovum develops into a child during a period from conception to
birth. This process is called _____ and the condi-
tion is called _____.
- gestation 51.
During pregnancy an ovum passes through many developmental
stages or phases. Taken together, these phases make up the nine-
month period called _____.
- The earliest gestational phase begins with a fertilized female egg
cell. In just two weeks, the ovum divides into two cells, and each
cell continues halving until it has become a complex mass of cells.

This mass of cells is now called an *embryo*. It's a living organism ready to continue its development into the next phase.

conception

52. The indispensable event that initiates a pregnancy is _____.

ovum
ō' vum
two

53. After conception, the earliest phase of development begins with a fertilized _____ and lasts _____ weeks.

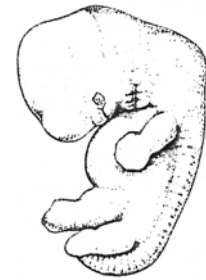
embryo
em' brē ō

54. The first two weeks of gestation produce a complex living organism called a/an _____.

The *embryo* begins a second stage of gestation in the third week, which lasts six weeks. In the third week, the embryo begins to acquire structure (head, arms, legs, and a tail), and over the next few weeks it begins forming principal internal organs and body systems. By the end of the eighth week of gestation the embryo looks somewhat like a human and is called a *fetus*.



5 weeks



6 weeks



8 weeks

Figure 9.315

embryo

55. The second stage of gestation begins with a two-week-old ovum, which is now called an _____.

third

56. The embryo begins its second stage of development in the _____ week of gestation and continues

eighth

through the _____ week of a new pregnancy. At the

fetus

beginning of the ninth week, it is called a _____.

- organs
57.
During this second gestational phase the embryo begins forming arms and legs and principal internal _____.
- human being
fetus
fē' tus
58.
By the beginning of the ninth week, the embryo begins to resemble a _____ and is called a _____.
59.
A *fetus* begins the last phase of gestation. A fetus is a live offspring while it is in the mother (in utero). It continues developing during the remainder of the gestational period. The fetal stage lasts from the beginning of the third month of gestation to childbirth. A fetus sufficiently developed to sustain life outside the uterus is called a *viable* fetus.
- viable fetus
- In the last gestational phase, the fetus in utero develops into a _____.
- at three months of pregnancy
- When does this phase begin? _____
- seven more months
- How long does it last? _____.
- childbirth
- What is the terminating event? _____.
60.
Here's a quick review.
- Penetration of an ovum by a spermatozoon is called _____.
 - A nine-month period during which a fertilized ovum becomes a child is called _____.
 - In the first two weeks of pregnancy an ovum becomes a complex organism called an _____.
 - From the third week to the beginning of the ninth week of pregnancy an embryo develops rudimentary appendages and internal _____.
 - After only two months' gestation, the embryo begins to resemble _____ and is called a _____.
 - A fetus developing in utero for the next seven months becomes a _____.
 - Gestation ends with _____.
- conception
- pregnancy or gestation
- embryo
- organs
- a human being
fetus
- human being or child
childbirth

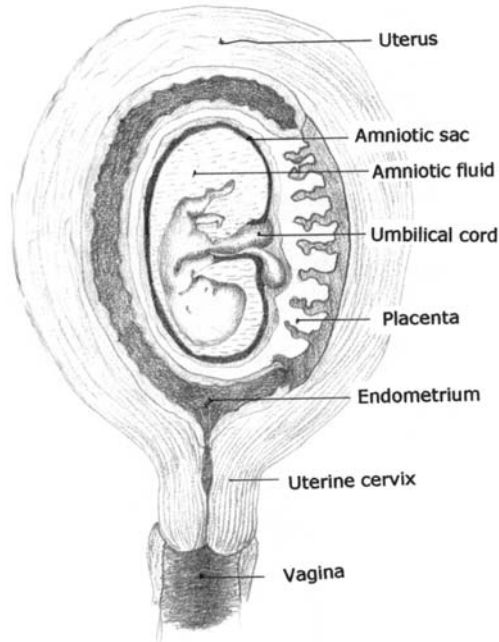


Figure 9.4. Fetus in Utero, Beginning 9th Week.

uterus (hyster/o, metr/o)
 amniotic sac (amni/o, amniot/o)
 amniotic fluid (liquor amnii)

61. Here are a few medical terms referring to some structures and conditions relating to pregnancy. *Amnion*, *amni/o*, *amniot/o* refer to a thin transparent sac containing the fetus and the fluid surrounding the fetus. This sac grows rapidly as the fetus inside develops. The amniotic fluid protects the fetus from injury and helps maintain an even temperature. Within the amniotic sac the fetus is protected from injury and changes in temperature by the *liquor amnii*, or in other words, _____.

amniotic fluid
 am nē ot' ik flū' id

62. Amniot/itis means inflammation of the amnion. Build a word that means pertaining to the sac that envelops the fetus: _____.

amniotic

63. Centesis is the suffix meaning to puncture a cavity and remove fluid. Explain the meaning of amni/o/centesis: _____.

am' nē ō sen tē' sis
 puncturing the amniotic
 sac and withdrawing
 some fluid

am' nē ō tōm
usually an ultrasound
graphic study of
the amnion (and its
contents)

64.
Amni/o/tome is an instrument for cutting (puncturing) the
amnion. What does amni/ography mean? _____
_____.

ol' i gō hī dram' nē os
scanty amount of
amniotic fluid in
the sac

65.
Olig-, *oligo-* is a prefix meaning little, small, scanty. Olig/uria means
scanty urination. What does olig/hydr/amnios mean? _____
_____.

excessive amount of
amniotic fluid in the
sac

66.
What do you think polyhydramnios means?

_____.

amniotic sac or amnion

67.
What structure envelops the fetus and contains the fluid protecting
the fetus? _____.

68.
Placenta is a structure made up of a network of blood vessels (arteries and veins). The placenta makes an intimate bond with the inside lining of the uterus (endometrium), and attaches to the fetus by the umbilical cord. The fetus absorbs oxygen and nutrients from its mother through the placenta. It excretes carbon dioxide and other wastes through this same vascular structure. The placenta begins to form about the eighth day of gestation, and by the end of the pregnancy weighs about one-sixth the weight of the infant. After the birth of the child, the uterus expels the placenta, now called the *afterbirth*.

placenta

The fetus in utero absorbs oxygen and nutrients and excretes carbon dioxide and wastes through a vascular structure called the
_____.

1 pound
1 ounce

69.
The placenta weighs one-sixth of the weight of the infant. If the baby's birth weight is 6 pounds, 6 ounces, what would you expect the placenta to weigh at the end of pregnancy? _____ pound
_____ ounce.

en dō mē' trē um
the inside lining of the
uterus

70.
The placenta forms and grows on the endometrium and makes an intimate bond with it. What is the endometrium? _____

placenta
umbilical cord

71.
While in utero the fetus grows by getting its nourishment through the _____. The fetus is attached to the placenta by the _____.

afterbirth

72.
The placenta is expelled after the baby is born. The placenta is also called _____.

pregnant (a current
condition)

73.
Gravida, gravid refers to a pregnant woman; being heavy with child. Gravidism is the condition of being _____.

prī' ma grav' i da
a woman who is
pregnant with her
first child

74.
Primi- means first; *secundi-* means second. Primigravida refers to _____

a woman in her second
pregnancy

What do you think gravida II means?

secundigravida
sē kun' da grav' i da

Build a compound medical term meaning a woman in her second pregnancy: _____.

75.
Here's a quick review. From the suggested answers, select a term to go with each definition. Write your selection in the space provided.

SUGGESTED ANSWERS:

- | | |
|-----------------|----------------|
| oligohydramnios | primigravida |
| amniocentesis | secundigravida |
| amniotic fluid | placenta |

secundigravida

a woman in her second pregnancy, _____.

primigravida

a pregnant woman, first time, _____.

oligohydramnios

scanty fluid in the amnion, _____.

placenta	fetus in utero absorbs nutrients and excretes waste through it, _____.
amniotic fluid	<i>liquor amnii</i> , _____.
amniocentesis	puncture of the amnion and removal of fluid, _____.

Labor and Delivery

Parturition is more commonly known as *labor*. Parturition is the process by which a baby is born and the placenta expelled from the uterus. This labor, or parturition, has three stages. The first stage is the stage of *dilation*. It is characterized by contractions of the uterine muscle and dilation of the birth canal and cervix—to let the baby out. The second stage is *expulsion*. The baby is born! In the third stage the placenta is expelled. This is the *afterbirth* stage. The average duration of labor is about 13 hours in primagravida women (12 hours in dilation stage, 1 hour in expulsion stage, and a few minutes for the afterbirth). Labor is about 8 hours long in subsequent pregnancies.

parturition labor	76. At term, when gestation is completed, a spontaneous physiological process begins. It has three stages: dilation, expulsion, and afterbirth. This process is called _____ OR _____.
dilation dī lā' shun	77. In the first stage of labor, the uterus contracts rhythmically for 8 to 12 hours. The cervix stretches and opens until it is fully dilated so the baby may pass through the birth canal. This first stage is called the _____ stage.
expelled, born	78. The second stage of labor involves expulsion. The infant passes through the birth canal and is _____.
afterbirth	79. Expulsion of the placenta follows the birth of the child. The expelled placenta is more commonly known as the _____.
a child is born (expelled)	80. What happens during the expulsion stage, or the second stage of labor? _____.

- a few minutes 81. How long is the third stage of labor? _____.
- the placenta is expelled 81. What happens in the afterbirth stage of labor? _____.
- the cervix (neck of the uterus) completely dilates (opens) 82. After 8 to 12 hours of uterine contractions during the first stage of labor, what has happened? _____.
- par tyer ish' un labor 83. *Parturition* is another word for childbirth. What other term you just learned also means the process of being born? _____.
- pertaining to after labor is completed 84. *Antepartum* refers to the entire gestational period before labor begins. What does postpartum mean? _____.
- pertaining to the recent period around childbirth 85. *Neo* means new or recent. *Natus* is a Latin term for birth. What does neonatal mean? _____.
- pertaining to medical care and supervision of a pregnant woman before childbirth 86. What do you think prenatal care means? _____.
87. Review the terms you just learned before moving on. Select the term that best fits each brief definition. Use the suggestions if you need help.
- | | |
|---------------|-------------|
| labor | parturition |
| prenatal care | afterbirth |
| dilation | expulsion |
- prenatal care 87. medical supervision of a pregnant woman, _____.
- prē nā' tal kair
- labor or parturition 87. the process of giving birth, _____.

parturition or labor	the act of childbirth, _____.
dilation	first stage of labor, _____.
expulsion	second stage of labor, _____.
afterbirth	third stage of labor, _____.

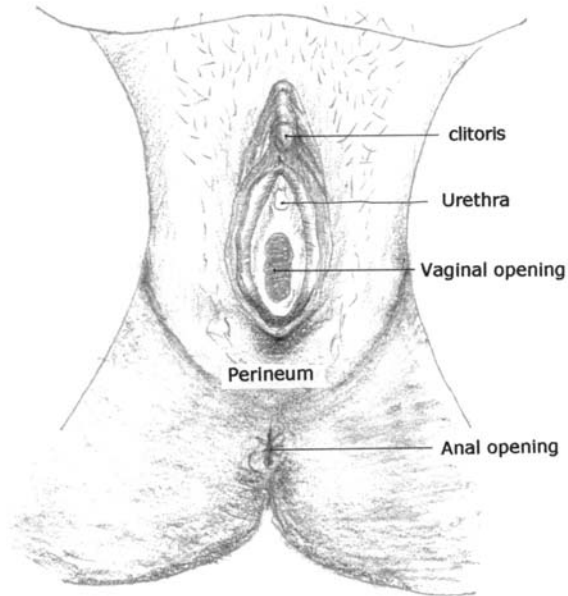


Figure 9.5. Female Pudenda.

urethra (urethr/o)	perineum
vagina (vagin/o)	anus (an/o)

88.

Pudendum, pudenda (plural) means the external genitals (sex organs) of a female. These parts are easily observed without manual examination.

Take a look at Illustration 9.5 above.

pudendal
pyōō den' dl

Build a term meaning pertaining to the female's external genitals:

_____.

89.

Perineum refers to the structures that make up the pelvic outlet and comprise the pelvic floor. It is the region between the lip at the vaginal opening and anus in a female or between the scrotum and _____ in a male.

anus
ā' nus

- perineum
per i nē' um
90.
A baby coming through the birth canal during parturition can overstretch the vagina and the pelvic outlet. A tear (laceration) may occur in the tissues around the pelvic outlet. This pelvic floor structure is called the _____.
- perineum
91.
Episiotomy is an incision of the perineum. During the second stage of labor, just before the baby is born, the obstetrician may incise the perineum to avoid a more damaging laceration of the surrounding tissues.
Episiotomy controls damage to the tissues of the vagina and _____.
- episiotomy
e pēz ē ot' ō mē
92.
An incision into the perineum is called _____.
- suturing repair,
reconstruction of
the tissues after an
episiotomy
93.
What does episiorrhaphy mean? _____

_____.
- peritoneum
per i tō nē' um
per i tō nī' tis
inflammation of the
peritoneum
94.
Here's a term often confused with perineum. *Peritoneum* is a tough membrane covering the viscera (organs in the belly) and lining the abdominal cavity. It clings to the viscera as plastic wrap clings to whatever it covers.
The membrane that coats the viscera and lines the abdominal cavity is the _____.
perineum/peritoneum
What is peritonitis? _____
_____.
95.
Select one of the terms that best fits the brief definition. Write it in the space provided.
- peritoneum episiotomy
pudenda perineum
- pudenda
external female genitals, _____.
- perineum
the region of the external female genitals between the vaginal lip and anus, _____.

peritoneum	a membrane coating the viscera and lining the abdominal cavity, _____.
episiotomy	incision of the perineum to limit injury of the pelvic outlet during childbirth, _____.
involution	96. <i>Involution</i> is a <i>process</i> the body goes through that reduces the uterus to its normal nonpregnant size and condition following childbirth. The process that returns an enlarged uterus to its normal size after the baby is born is called _____.
pōō er pēr' ē um expelled	97. <i>Puerperium</i> is a <i>period of time</i> following the third stage of labor when involution takes place. Involution lasts approximately six weeks. Puerperium begins after the fetus and the placenta have been _____.
six	98. Puerperium lasts until the uterus returns to its size and condition before pregnancy began. This period of time is approximately _____ weeks.
involution	99. After fulfilling its function, the uterus goes through a process of returning to its earlier nonpregnant condition. This process is called _____.
puerperium pōō er pēr' ē um	100. Involution takes place during a six-week period after childbirth. This time period is called the _____.
of or pertaining to the period after childbirth when involution takes place	101. Explain the meaning of the term puerperal. _____ _____ _____.
puerperal (sepsis)	102. <i>Sepsis</i> means the presence of pathogenic organisms or bacteria that cause serious infections. Years ago, prior to effective antibiotic therapy, the greatest single cause of death following childbirth was called <i>childbed fever</i> . Another description of this condition is _____ sepsis. (pertaining to the time when involution takes place)

- inflammation of the peritoneum during puerperium 103.
What is puerperal peritonitis? _____
_____.
- the process by which the uterus returns to its earlier nonpregnant state after childbirth 104.
Involution takes place during puerperium. What does involution mean? _____

_____.
- nulli/para nullipara nu lip' ə ra 105.
Nulli- is a prefix meaning none. *Para* means to bear a child. Build a term that refers to a woman who has never borne a child:
_____ / _____.
- prīm ip' ə ra 106.
a woman who has given birth to one viable child (an event in the past)
A woman who has delivered more than one living child is described as *multipara*. What does *primipara* mean? _____
_____.
- she has given birth to two viable children 107.
What does an obstetrician mean when he writes in the patient's chart that she is para-2? _____
_____.
- primipara nullipara multipara mul tip' ə ra 108.
Using the word root *para* and *nulli-*, *multi-*, or *primi-*, build a word for each of the following abbreviations.
para-1, _____.
para-0, _____.
para-4, _____.
109.
It's a good time to review what you just covered. Select a term from the suggestions and complete each brief definition.
nullipara parturition
primigravida antepartum
involution puerperium
- involution the process taking place after childbirth that reduces the uterus to normal size and condition, _____.

puerperium	the six-week period after childbirth when involution takes place, _____.
ante partum	the period in a pregnancy occurring before labor, _____.
nullipara	a woman who has never given birth to a viable child, _____.
primigravida	a woman who is pregnant for the first time ever, _____.
parturition	another term for labor, _____.

110.

Here are some terms you may find very interesting. Look them up in your medical dictionary. You'll be surprised at how much you have learned.

acquired	congenital
anomaly	eclampsia
placenta abruptio	placenta previa

111.

Here are 50 new words you worked with in this unit. When you pronounce each term be sure to think about what it means. Then take the Unit 9 Self-Test.

amenorrhea (ä men ò rē' a)	hysterorrhexis
amniocentesis (am' nē ò sen tē' sis)	(his' ter ò rek' sis)
amnion (am' nē on)	involution (in vō lōō' shun)
amniotic fluid (am nē ôt ik flōō' id)	labor
climacteric (klī mak' ter ik)	mammalgia (ma mal' jē ə)
conception (kon sep' shun)	mammary (mam' ə rē)
dysmenorrhea (dis men òr ē' ə)	mammopexy (mam' ò pek sē)
embryo	mastodynia (mas tō din' ē ə)
endometrium	mastoncus (mas tong' kus)
(en' dō mē' trē um)	mastopathy (mas top' ə thē)
epiotomy (e pēz ē ot' ò mē)	mastopectomy (mas top' tō' sis)
fetus	menometrorrhagia
gestation (jes tā' shun)	(men' ò mētrō rā' jē ə)
gynecomastia (gī' ne kō mas' tē ə)	menopause (men' ò pawz)
gynoplasty (jin' ò plas tē)	menorrhagia (men ò ral' jē ə)
hysterocele (his' ter ò sēl)	menses (men' sēz)
hysteromyoma	menstruation
(his' ter ò mī ò' mā)	(men strū ā' shun)

metratrophy (mē tra' trō fē)	polyhydramnios
metrorrhagia (mē trō ra' jē ə)	(pā lē hī dram' nē ōs)
multipara (mul tip' ə ra)	postpartum
myometritis (mī' ō mē trī' tis)	primigravida
neonatal (nē ō nā' tal)	(prī' ma grav' i da)
nullipara (nu lip' ə ra)	pudenda (pyōō den' də)
oligohydramnios	puerperal sepsis
(ol' ē gō hī dram' nē ōs)	(pōō er' per al sep sis)
ovum (ō' vum)	puerperium
parturition (pär tyōōr ish' un)	(pōō er pēr' ē um)
perineum (per i nē' um)	spermatozoon
peritoneum (per i tō nē' um)	(sper' ma tō zō' on)
placenta	

Unit 9 Self-Test**Part 1**

From the right, select the correct meaning for each of the following medical terms.

- | | |
|--------------------------|---|
| _____ 1. Primigravida | a. X ray study of the breast |
| _____ 2. Pudenda | b. Temporary lack of menstruation |
| _____ 3. Hysteropathy | c. Pelvic floor, region from vaginal lip to anus |
| _____ 4. Mammary | d. Process returning uterus to non-pregnant state |
| _____ 5. Mastrodynia | e. Incision of vagina and pelvic outlet |
| _____ 6. Amniotic | f. Female external genitals |
| _____ 7. Episiotomy | g. Pregnant woman, first time |
| _____ 8. Endometritis | h. Period after childbirth, when involution takes place |
| _____ 9. Involution | i. Pertaining to sac holding the fetus and fluid |
| _____ 10. Metratrophy | j. Rupture of uterus (during labor) |
| _____ 11. Perineum | k. Pertaining to the breast |
| _____ 12. Amenorrhea | l. Uterine atrophy (wasting) |
| _____ 13. Puerperium | m. Inflammation of uterine inside lining |
| _____ 14. Hysterorrhexis | n. Painful breasts |
| _____ 15. Mammography | o. Uterine disease |

Part 2

Write the medical term for each of the following brief definitions.

1. Surgical fixation of pendulous breasts _____
2. Membrane covering abdominal viscera (organs) _____
3. Painful breasts _____
4. Change of life period Female _____
5. Organism in utero resembling a human _____
6. Organ that nourishes fetus in utero _____
7. Surgical removal of the breast _____
8. Another term for pregnancy _____
9. Pertaining to a recently born child _____
10. Woman pregnant with her first child _____
11. Pendulous breast _____
12. Fertilization of an ovum _____
13. Labor and delivery of term pregnancy _____
14. Pertaining to before the onset of labor _____
15. After childbirth when involution takes place P _____

ANSWERS**Part 1**

1. g
2. f
3. o
4. k
5. n
6. i
7. e
8. m
9. d

Part 2

1. Mammopexy
2. Peritoneum
3. Mastodynia, mammalgia
4. Female climacteric
5. Fetus
6. Placenta
7. Mastectomy
8. Gestation
9. Neonatal

- | | |
|-------|-----------------|
| 10. l | 10. Primipara |
| 11. c | 11. Mastoptosis |
| 12. b | 12. Conception |
| 13. h | 13. Parturition |
| 14. j | 14. Antepartum |
| 15. a | 15. Puerperium |

10 The Eye and the Respiratory Tract

Unit 10 is divided into two sections. In the first section you'll work with new terms relating to the eye. You will use some new word roots and combining forms and put them together with many suffixes you are already familiar with. The second section covers new terms relating to the respiratory tract. Review the Mini-Glossary below.

Mini-Glossary

The Eye

blephar/o (eyelid)
core, core/o (pupil)
corne/o, kerat/o (cornea)
cycl/o (ciliary body)
dipl/o (paired, double)
ir, irid/o (iris)
lacrim/o (tear)
ophthalm/o (eye)
retin/o (retina)
scler/o (sclera)

The Respiratory Tract

bronch/i (bronch/o, bronchus)
laryng/o (voice box)
ment/o (chin)
nas/o (nose)
pharyng/o (throat)
pleur/o (covering of the lung)
pneum/o (air, breathe)
pneumon/o (lung)
thorac/o (thorax)
trache/o (windpipe)

Don't forget to complete the Review Sheet for Unit 9 before beginning Unit 10. Keep up the good work!

1.

Let's refresh your memory. You'll find it helpful to review suffixes you already studied and will use again in the first section. Write the meaning of each of the following. Do your best without looking at the answers.

“charley horse,”
twitching

-spasm _____

suturing, repair

-orrhaphy _____

inflammation of

-itis _____

a diseased condition

-pathy _____

instrument that cuts

-tome _____

dilation, stretching

-ectasia _____

resembling, like

-oid _____

to fix, fixation (into
normal place)

-pexy _____

pertaining to out of
normal place

-ectopic _____

hernia, herniation

-cele _____

drooping, prolapse

-ptosis _____

measuring, measuring
instrument

metr-, -meter _____

instrument for examin-
ing, looking inside of

-scope, -scopy _____

treatment, treating a
condition

-therapy _____

surgery to restore or
make new

-plasty _____

2.

Now, let's try it the other way. Write the suffix that satisfies the definition given in the table below. Then go back to the first frame and check your answers. You may want to use this table to help you complete the next few frames.

Definition	Suffix
to measure, instrument for measuring _____	
treatment for a condition _____	
inflammation of _____	
dilation, stretch _____	
drooping, prolapse _____	
examine, instrument to look inside _____	
surgery to restore, make new _____	
resembling, like _____	
"charley horse," twitching _____	
a diseased condition _____	
surgically fix into normal place _____	
suture, repair after trauma _____	
instrument for cutting _____	
pertaining to out of normal place _____	
hernia, rupture _____	

The Eye

of, pertaining to, or
relating to the eye
ophthalm-
ophthalm/o

3.

Here are some new terms. Ophthalmology is the medical specialty concerned with the eye, and its diseases. Ophthalm/o/malacia means an abnormal softening of the eyeball.

What is the word root? _____ Write the combining form: _____.

4.

Ophthalm, *ophthalm/o* are the word root and combining form for terms difficult to spell and pronounce. But if you pronounce the words correctly, the spelling will be easier. For example, oph/thal/mo is pronounced of thal' mō. The oph is pronounced as _____. In the word root ophthalm-, ph comes before th, as in the alphabet (p before t). Oph thal mō is pronounced _____.

Pronounce it.

of
of thal' mō

5.

Here's a chance to practice your spelling and pronunciation. Use the combining form ophthalm/o and add each of these suffixes to build new words.

-cele	hernia, herniation
-meter	instrument for measuring
-plegia	paralysis

Build a term and then pronounce it carefully:

ophthalmocele
of thal' mō sēl
ophthalmometer
of' thal mom' e ter
ophthalmoplegia
of thal' mo plē' gē a

herniation of the eye (abnormal protrusion), _____;

instrument for measuring the eye, _____;

paralysis of the eye (eye muscle), _____.

6.

ophthalmologist
of thal mol' ō jist

The physician who practices the medical specialty concerned with diseases of the eye is an _____.

7.

ophthalmoscope
of thal' mō skōp

The instrument used for examining the interior of the eyeball through the pupil is an _____.

8.

double vision

Dipl/o means double or paired. *-Opia* is a suffix meaning vision. What does *diplo/opia* mean? _____.

9.

diplopia
di plō' pē a

Whenever a pair of eyes fail to record a singular image in the brain, a double image occurs. The medical term for double vision is _____.

10.

double (or paired)
bacteria
bluish vision

Write a brief meaning for each of the following.

diplo/o/bacteria, _____
_____;

cyan/opia; _____.

11.

blepharoptosis
blephar-
blephar/o

Blephar/optosis means prolapse (drooping) of an eyelid. The word root for eyelid is _____. The combining form is _____.

- blef ar e dē' ma
blepharedema
12. Blephar/edema means excess fluid in the tissues of the eyelid. Underline the part of the term meaning swelling due to fluid in the tissues: blepharedema.
- blepharedema
13. The condition of swollen eyelids due to excess fluid in the eyelids is _____.
- blef' ar ō spazm
twitching of the eyelid
14. Define each of the following terms:
blepharospasm means _____
_____.
- blef ar ōr' a fē
suturing of the eyelid
- blepharorrhaphy means _____
_____.
- blef ar ī' tis
blepharitis
15. Build a word that means inflammation of the eyelid,
_____.

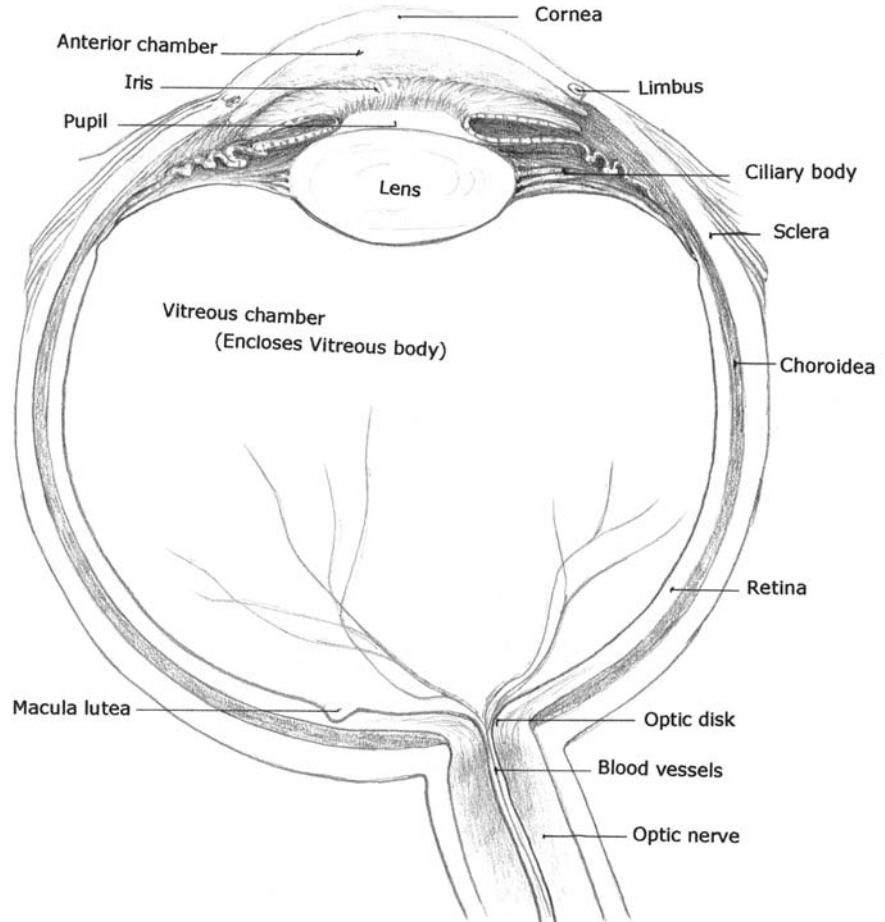


Figure 10.1 The Eye.

Sight is the most dominant of the human senses. Over 70% of the body's receptors are the specialized photosensitive cells of the eyes. It has been estimated that a third of all the fibers bringing impulses to the central nervous system come from the eye.

The human eye is somewhat like a camera that captures light and focuses it on a light-sensitive area. The wall of the eyeball consists of three coats or layers of tissue. The first layer is the fibrous, rubber-like protective coat called the *sclera*, known as the "white of the eye." The sclera gives the eyeball its shape, and can be seen around most of the eyeball's surface. A continuation of the sclera

and the most anterior segment of this fibrous coat is the cornea. The *cornea* is a transparent structure that bulges and has no blood vessels. It plays a big role in focusing light rays on the retina of the eye. The area called the *limbus* is where the cornea meets the sclera.

The middle layer of the eyeball is the vascular layer called the *choroidea*. It lies between the retinal and the scleral layers. The choroidea contains many blood vessels and includes the iris and the ciliary body. The iris, or the colored part of the eye seen through the cornea, is a fibromuscular body that circumscribes the hole (pupil) in front of the lens. Action of the iris increases and decreases the size of the pupil. Another portion of the choroidea is the ciliary body. This structure is continuous with the iris and contains the ciliary muscle, which controls eye movement. The lens is a tightly packed and encapsulated bunch of special fibers. Along with the cornea, it shares responsibility for bringing images into focus on the retina.

The fluid-filled space between the iris and the cornea is the *anterior chamber*. It contains a fluid material called aqueous humor which services the cells within its environment. A large cavity posterior to the lens is known as the *vitreous chamber*. This cavity contains a clear, gelatinous mass known as the vitreous body. The vitreous body maintains the shape of the eye and gives support to the retina.

The *retina* is the innermost coat of the eye, the neural layer. It lines a bit more than the posterior half of the globe. The retina is a complexly composed network of interlacing layers of blood vessels and photoreceptor cells that come together at the *optic disk*. This is actually a blind spot since there are no photoreceptors here. The optic disk penetrates the wall of the eye and forms the optic nerve which carries impulses to the brain.

When light enters the eye, it passes through the cornea, pupil, and lens, and focuses an image on the retina. At about the center of the retina there is a clearly depressed region with a dense accumulation of photoreceptor cells. This area of the retina providing the sharpest vision is called the *macula lutea*. At the center of macula is the *fovea centralis*. This site represents the center of the greatest visual acuity (clarity of form and color) under lighted conditions.

I hope you enjoyed your tour of the anatomy of the eye.

cornea (kerat/o)

iris (ir, irid, irid/o)

retina (retin/o)

sclera (skler/o)

pupil (cor, core/o)

ciliary body (cycl/o)

16.
Use Illustration 10.1, The Eye, and the accompanying description. The cornea is the transparent tissue covering the anterior sixth of the eye. *Kerat*, *kerat/o* form words referring to the cornea. Write the meaning of each of the following:
- kor nē al
pertaining to the
cornea
ker a top' a thē
disease of the cornea
- corneal _____;
- kerat/o/pathy _____.
17.
Using the combining form *kerat/o*, build a term meaning plastic repair of the cornea: _____.
- keratoplasty
ker' a tō plas tē
18.
The cornea is one-sixth of the outer coat of the eyeball. It is the transparent tissue covering the front of the eyeball. The word root and combining form meaning cornea are _____.
- kerat, kerat/o
19.
Scler/o refers to the white of the eye. The sclera is the hard fibrous coat forming the outer envelope of the eye. It covers five-sixths of the eyeball. The other anterior sixth is occupied by the _____.
- cornea
20.
Corneoscleral means pertaining to an area where the cornea meets the sclera. Write the meaning for each of the following:
- skler' al
pertaining to the sclera
- scleral _____;
- skler' ō tōm
instrument for cutting
the sclera
- sclerotome _____.
21.
Sclerectasia means bulging (stretching) of the white of the eye. Build a term meaning excision of a portion of the sclera:
_____.
- sclerectomy
skle rek' tō mē

ī' ris
 ir' i dō kor' nē al
 pertaining to the area
 where the iris and
 cornea meet

ir' id ō sēl
 hernia of the iris

ir/itus
 iritis
 ī rī' tis

i ri dal' jē ə
 pain in the iris

iridectomy
 i ri dek' tō mē

cornea
 vision, sight
 iris
 sclera
 eye
 eyelid
 iris

retinal
 ret' i n'l
 retinitis
 ret i nī' tis
 retinoid
 ret' i noyd

22.

Iris means rainbow. The iris is a diaphragm perforated in the center (the pupil). The word roots referring to the donut-shaped color in the eye are *ir*, *irid*, and *irid/o*. What do you think iridocorneal means? _____

Iridocele means _____

23.

One of the word roots for the iris is *ir*. It has very limited use, but it's always used to express inflammation.

Using the word root *ir* build a word meaning inflammation of the iris: _____ / _____.

24.

Irid/o is the combining form used to refer to the iris in almost all other words. *Iridalgia* means _____.

25.

Build a term meaning excision of part of the iris: _____.

26.

Write what each of the following word roots or combining forms means.

kerat/o, _____.

opia, _____.

irid/o, _____.

scler/o, _____.

ophthalm/o, _____.

blephar/o, _____.

ir, _____.

27.

Retin/o refers to the complex membrane lining the inside back surface of the eye. It receives the visual light rays, which the brain interprets and gives meaning. Build a word meaning

pertaining to the retina, _____;

inflammation of the retina, _____;

resembling the retina, _____.

retinoscope or
ophthalmoscope
ret' i nō skōp

28.
Retinopexy means affixing (or adhering) the retina to the wall of the eyeball for correcting retinal detachment. What would you call an instrument for examining the retina to look for retinopathy?
_____.

ret i nop' a thē
disease of the retina

29.
What does retinopathy mean? _____
_____.

(eye), iris

30.
The pupil is the circular opening in the center of the iris through which the light rays enter the eye. It is the core or center of the eye. *Cor, core/o* refer to the pupil in the center of the _____.

pupil
dilation
kōr ek tō' pē a
a misplaced pupil

31.
An ophthalmologist may use drops in the eye to dilate the pupil before an examination.
Analyze the term *cor/ectasia*.
Cor- is the root meaning _____;
ectasia means _____.
What does *cor/ectopia* mean? _____

kōr ē om' e trē
measuring the size of a
pupil

32.
Coreoplasty is a surgical procedure for correcting a deformed pupil.
Write a term meaning to measure the size of a pupil. _____

sī klō pa ral' i sis
paralysis of the ciliary
body

33.
Take another look at Illustration 10.1, The Eye. The ciliary body controls movement of the eye. The word root for ciliary body is *cycl/o*. It means circle or surrounding.
What does *cyclo/paralysis* mean? _____

sī klō krī' ō ther' a pē
cyclocryotherapy

34.
Cyclocryotherapy means freezing of the ciliary body in the treatment of glaucoma. Underline the part of the term referring to freezing: cyclocryotherapy.

sī klō ker a tī' tis
inflammation of the
cornea and the
ciliary body

35.

Use Illustration 10.1 for help. Cyclitis means inflammation of the ciliary body. What is the meaning of cyclokeratitis? _____

_____.

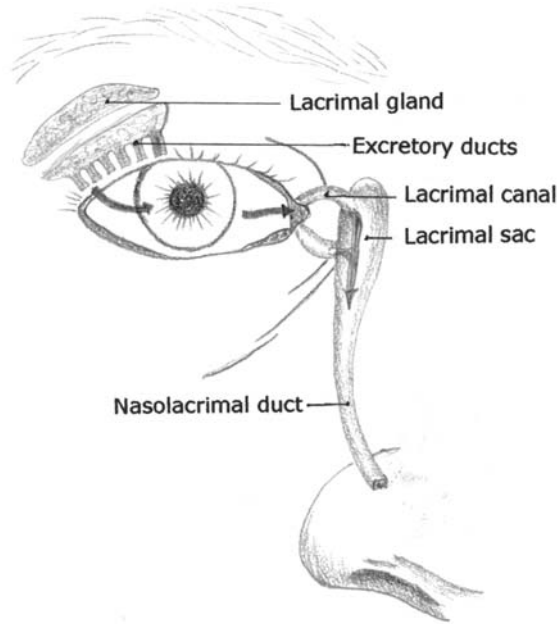


Figure 10.2 The Lacrimal apparatus.

The human lacrimal apparatus is responsible for producing tears and delivering them to the eye. When an excess is produced, the tears flow into the nasal cavities.

The lacrimal apparatus begins with the *lacrimal gland* seen under the upper lateral eyebrow and extending inward toward the midline. Blinking stimulates the lacrimal gland to secrete lacrimal fluid (tears) that washes the eye. It also contains substances that destroy the cell walls of bacteria, and it moistens the surface of the eye. The fluid passes through a series of excretory ducts and enters a fold of tissue under the upper eyelid. The eyelid then distributes the tears across the eyeball. Excess fluid flows to the medial corner of the eye passing through a tiny opening and entering the *lacrimal canal*. The upper and lower lacrimal canals drain into the *lacrimal sac*. Excess tears move from the lacrimal sac into the *nasolacrimal duct* and pass through an opening into the nose. This is the reason one snuffles when crying.

- lak' ri mal
relating to tears
36.
Look again at the illustration. The lacrimal apparatus consists of the gland, the sac, and the duct. The purpose of the lacrimal apparatus is to keep the surface of the eye moist and protected. What do you think lacrimal means? _____.
- lacrimal
37.
The gland that secretes tears is the _____ gland.
- lacrimal
- The sac that collects the tears is the _____ sac.
- nasolacrimal duct
- What is the structure that empties the tears into the nasal cavity?
_____.
38.
Tears keep the surface of the eye moistened. Tears are continually being formed and removed. When tears form more quickly than they can be removed by the lacrimal apparatus, we say the person is _____.
- crying
39.
How about a review? Complete each of the following brief definitions. Use the suggested answers to help you.
- SUGGESTED ANSWERS:
- | | |
|------------------|--------------|
| iritis | cycloplegia |
| lacrimal | diplopia |
| cyclocryotherapy | sclerotome |
| retinoscopy | ophthalmic |
| coreometry | keratitis |
| iridocele | keratoplasty |
- coreometry
- iridocele
- ophthalmic
- retinoscopy
- iritis
- sclerotome
- lacrimal
- keratoplasty
- cycloplegia
- keratitis
- diplopia
- cyclocryotherapy
- measurement of pupil size, _____.
- herniation of the iris, _____.
- pertaining to the eye, _____.
- examination of the retina, _____.
- inflammation of the iris, _____.
- instrument for cutting the sclera, _____.
- relating to tears, _____.
- surgical reconstruction of the cornea, _____.
- paralytic ciliary body, _____.
- inflammation of the cornea, _____.
- double vision, _____.
- treatment (of glaucoma) freezing the ciliary body, _____.

40.

Try these now. Write the meaning of each of the following word roots:

retina
pupil
ciliary body
eyelid
cornea
eye
sight, vision
iris

retin/o, _____.
cor/o, core/o, _____.
cycl/o, _____.
blephar/o, _____.
kerat/o (corne/o), _____.
ophthalm/o, _____.
opia, _____.
irid/o, _____.

The Respiratory Tract

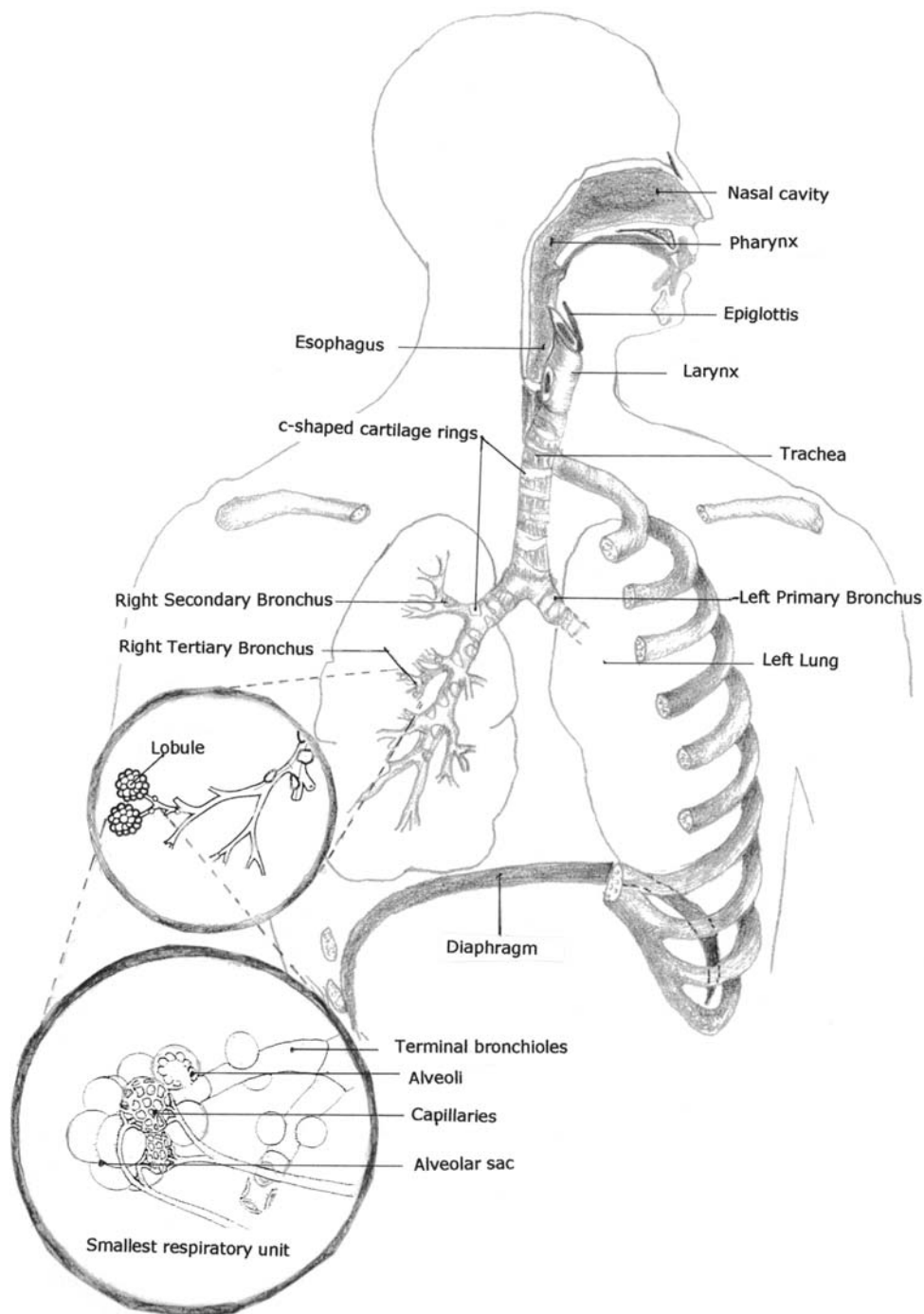


Figure 10.3 The Respiratory Tract.

The respiratory system consists of passageways that receive incoming air and carry it to the *lungs* for exchange of oxygen and carbon dioxide gases. The lungs are the main organs of gas exchange in the body. They are soft, spongy organs enveloped in a tough, wet and slippery transparent membrane called the *pleura*. The lungs are protected by the bony cage of the thorax. Most of the rest of the skeleton of the respiratory tract is cartilaginous, right down to the smallest air passageway. The dome-shaped muscular *diaphragm* provides most of the force necessary for inspiration and expiration of air. One quarter of the force is generated by the intercostal muscles moving the ribs. When the diaphragm contracts and flattens in its space, air enters the lungs. When it relaxes, air is expelled from the lungs.

Air enters the respiratory tract through the oral and nasal cavities. The *nasal cavity* houses the olfactory sense organ used in the sense of smell. The *pharynx* is an open area continuous with the nasal cavity, and its lower end opens to the *esophagus* and *larynx*. These upper passageways warm, moisten and purify the air on its way to the lower respiratory tract.

The *larynx* is an enlarged section of the upper respiratory tract at the top of the trachea. The opening to the larynx is guarded by a leaf-like flap of cartilage called the *epiglottis*. This structure prevents food from entering the respiratory passageway and directs it to the esophagus. Beneath the epiglottis is the opening to the larynx called the *glottis*. The larynx houses the vocal cords, an important component of the larynx used in speaking. For this reason, the larynx is often called the voice box. The vocal cords are composed of elastic fibers that help produce sound when air is forced between them. These sound waves are formed into words by the changing shapes of the pharynx and oral cavity and by using the tongue and lips.

Inferior to the larynx is the *trachea*, the passageway of air to the lungs. The trachea is a flexible cylindrical tube about one inch in diameter and approximately four inches in length. It is composed of 16 to 20 incomplete c-shaped rings of cartilage connected to one another by very elastic ligaments. The cartilage rings provide a semi-rigid support to the wall of the trachea, preventing it from collapsing inward. The trachea extends downward in front of the esophagus and into the thoracic cavity.

The *bronchial tree* consists of the branched airways extending from the trachea to the smallest respiratory unit in the lung. It begins with the left and right *primary bronchi* (pl.) Each primary bronchus enters a lung and then subdivides, forming left and right *secondary bronchi*. We see three secondary bronchi in the

anatomical right lung. The secondary bronchi branch again and the *tertiary bronchi* become *bronchioles*, less than 1 mm in diameter. These bronchioles give off smaller *terminal bronchioles* that represent the end of the air-conducting pathway.

Each *respiratory bronchiole* supplies air to lobules. A lobule is a basic gas exchange complex composed of air cells, called *alveoli*, which are arranged in *alveolar sacs*. The walls of the air cells are surrounded by capillaries. *Capillaries* are networks of pulmonary *arterioles* and pulmonary *venules*. The walls of the capillaries are fused to the structurally similar walls of the alveoli. Oxygen and carbon dioxide rapidly diffuse through the walls of these microscopic cells. The blood readily absorbs the oxygen, and gives up the carbon dioxide which is quickly exhausted to the external atmosphere. These basic units make up most of the lung's volume. Nowhere in the body does the outside world, with all its creatures of microscopic dimension, have such an easy access to the protected interior cavities of the body as it does at the air/blood interfaces in the lungs.

lung (pneumon/o)	diaphragm
nasal cavity (nas/o)	pharynx (pharyng/o)
esophagus (esophag/o)	larynx (laryng/o)
breathe, breathing (pne/o)	air, gases (pneum/o)

trachea (trache/o)	pleura (pleur/o)
--------------------	------------------

bronchus, (bronch/o), whether primary, secondary or tertiary parts of the bronchial tree.

41.

See above to help you identify the word root for each anatomical part. Then write a meaning for each of the following terms.

la rin jī' tis
inflammation of the
voice box

laryng/itis means _____

plōōr ī' tis
inflammation of the
pleura

pleuritis means _____
_____;

fair ing' gō plas tē
plastic surgery of the
throat

pharyng/o/plasty means _____
_____.

42.

la ring' gō sēl
herniation of the voice
box

Look again at Illustration 10.3. Seeing the various parts will help you learn. What does laryng/o/cele mean? _____
_____.

- laryngectomy
la rin jek' tō mē
43.
Build a term meaning surgical removal of the voice box:
_____.
- la ring' gō skōp
instrument for
examining the
voice box
44.
Write a meaning for each of the following:
laryngoscope means _____
_____.
- la ring' gō spazm
spasm of the voice box
- laryngospasm means _____
_____.
- trā kē ō rā' jē ə
hemorrhage from the
windpipe
45.
See Illustration 10.3 again. *Trachea* means windpipe. Write a brief definition for each of the following new terms:
tracheorrhagia _____
_____.
- trā kē al' jē ə
pain in the windpipe
- trachealgia _____
_____.
- trā kē os' tō mē
a permanent opening
into the windpipe
- tracheostomy _____
_____.
- trache or trache/o
46.
Write the word root and combining form for windpipe:
_____.
- brong kos' kō pē
looking into the
bronchus
47.
A *bronchus* is one of the major divisions of the windpipe. The bronchi (plural) direct the air into the lungs. Write a meaning for each of the following:
bronchoscopy _____
_____.
- bron' kō spazm
spasm of the bronchus
- bronchospasm _____
_____.
- brong kī' tis
inflammation of the
bronchus or bronchi
- bronchitis _____
_____.
- bronch, bronch/o
48.
The word root and combining form meaning major branches of the windpipe that open into the lungs is _____.

plōō rī' tis
inflammation of the
pleura

49.
Pleural means pertaining to the covering on the lungs. The pleural membrane completely covers the lungs and clings to it like plastic wrap. Only a few drops of thick fluid keep the lung and the pleura apart.

Pleuritis means _____
_____.

pleuralgia or
pleurodynia
plōō ral' jē ə
plōō rō din' ē ə

50.
Pleurisy is another word for inflammation of the covering of the lungs. Build a term that means pain in the pleura:
_____.

plōō rō sen tē' sis
puncture of the pleural
space and removing
the fluid

51.
Pleurisy may cause excessive fluid to collect within the space between the lung and the pleura. What do you think pleurocentesis means? _____
_____.

diaphragm
dī' a fram

52.
Refer to Illustration 10.3 again. The musculomembranous wall separating the abdomen from the chest cavity is the _____.

in

53.
During inspiration the diaphragm contracts; it flattens out downward, permitting the lungs to move downward and fill with air. Inspiration is breathing _____.
(in/out)

out

54.
During expiration the diaphragm relaxes. It resumes its inverted basin shape, squeezing the lungs and expelling the air out of the lungs. Expiration is breathing _____.
(in/out)

diaphragm

55.
The organ largely responsible for inspiration and expiration is the _____.

hiccough, or hiccup
hik' kof

56.
A sudden spasm of the diaphragm usually produces a giggle all around. It is called singultus. Can you guess what it means?
_____.

- singultus
sin gul' tus
57.
Another term for hiccough is _____.
- hē mop' ti sis
spitting blood
58.
Ptyis means spitting. What does hem/o/ptysis mean? _____
- ptysis
59.
Hemoptysis means spitting blood (arising from hemorrhage of larynx, trachea, bronchi, or lungs). Write the suffix meaning spitting, or spitting up. _____
- hē ma tem' a sis
expelling blood from
the stomach
(vomiting blood)
- What does hemat/emesis mean? _____
- hem/o, hemat/o
60.
Write the two combining forms for blood you just used in frames above. _____ and _____.
61.
Using either suffix, -ptysis or -emesis, build a medical term to express the following definitions:
- hemoptysis
spitting blood from hemorrhage of the lungs is _____
- hematemesis
expelling blood from the stomach is _____
- rīn or ra' jē a
hemorrhage from the
nose
62.
Epistaxis means nosebleed. What does rhinorrhagia mean? _____
- epistaxis
ep i stak' sis
rhinorrhagia
63.
Two terms mean severe bleeding from the nose. They are _____ and _____.
- spitting blood (arising
from the larynx,
trachea, bronchi, or
lungs)
64.
What does hemoptysis mean? _____
- vomiting blood (from
the stomach)
65.
What does hematemesis mean? _____

242 QUICK MEDICAL TERMINOLOGY

epistaxis
rhinorrhagia

66.
Nasal hemorrhage is _____ or _____.

nyōō mat' ik
pertaining to air or
gases (or exchange
of gases)

67.
Pneum/o, pneumat/o mean air, gases, or exchange of gases. What
does pneumatic mean? _____
_____.

brad ip nē' a
breathing very slowly

68.
Pne/o relates to breathing. Do you remember what bradypnea
means? _____

pne/o (nē ō)

69.
The combining form referring to inhale and exhale, or in other
words to breathe, is _____.

Pneum/o, pneumat/o are combining forms meaning air, gases, or
exchange of gases. Explain what these terms mean:

an abnormal condition
of air in a joint

Pneum/arthr/osis _____

a condition of air in the
heart

Pneumato/cardia _____

air in the urine during
or after urination

Pneumat/uria _____

pneum-

What is the word root for air or gases? _____.

nyōō mol' ō jē
air or gases

70.
Pneum/ology refers to the science of how the lungs exchange
_____ or _____.

not breathing,
breathing is absent

Apnea means _____.

pneumotherapy
nyōō mō ther' ə pē

71.
Hydrotherapy means treatment with water. Build a term meaning
treatment with (compressed) air: _____.

pneum/o
pneumon/o

72.
Pneumon, pneumon/o mean lung. At a quick glance you may confuse
it with the root for air or gases. Write the combining forms for
both: _____; _____.
air or gases lung

pneumonitis
nyōō mō nī' tis
pneumonectomy
nyōō mōn ek' tō mē

73.
Pneumonia is a serious disease of the lung. Build a term for each of the following:
inflammation of the lung _____.
surgical removal of a lung _____.

pne/o (nē ō)

74.
Drawing air into the lungs and pushing air out of the lungs is called breathing. The combining form referring to breathing is _____.

nyōō mon' ō graf
radiographic picture
of the lungs (chest
X ray)

75.
Pneum/o/encephal/o/graphy means X ray examination of spaces within the brain. These X rays are taken following withdrawal of cerebrospinal fluid (via lumbar puncture) and replacement of it with injected air or gas. What is a pneumon/o/graph? _____.

breathing, breathe
air or gas
lung

76.
Write a brief meaning for each of the following:
Pne/o _____.
Pneum/o or pneumat/o _____.
Pneumon/o _____.

thorax
thor' aks

77.
Thorax encloses the chest cavity. It refers to the upper part of the trunk between the neck and the abdomen. The diaphragm separates the abdomen from the _____.

thoracic cavity or
thorax

78.
The organs of the digestive apparatus are enclosed in the abdomen. The chief organs of the circulatory and respiratory systems are located in the _____.

thor a cot' ə mē
incision into the chest
cavity
thor a cō sen tē' sis
puncture of the chest
cavity to draw off
fluid

79.
Thorac and *thorac/o* are the word root and combining form referring to the chest cavity.
Thoracotomy means _____.
Explain thoracocentesis: _____.

hē mō thor' aks
blood in the chest
cavity

80.
Pneumothorax means air in the chest cavity. What does hemothorax mean? _____.

81.
Let's conclude this unit with a review. Using the suggested answers, complete each of the following brief definitions. Write your answer in the space provided.

SUGGESTED ANSWERS:

bronchus(i)	pleura
diaphragm	trachea
larynx	singultus
pharynx	epistaxis

larynx
bronchi
epistaxis
trachea
singultus
pharynx
pleura
diaphragm

voice box, _____.
main branches of the windpipe, _____.
severe nosebleed, _____.
windpipe, _____.
hiccough, _____.
throat, _____.
tough film enveloping the lungs, _____.
muscle controlling breathing, _____.

82.
Try that again.

SUGGESTED ANSWERS:

apneic	hemoptysis
pneumothorax	rhinoplasty
pneumonogram	pneumonia
nasal	pleurodynia

pneumonia
hemoptysis
pneumonogram
pneumothorax
nasal
rhinoplasty
pleurodynia
apneic

serious lung condition, _____.
spitting blood (arising from trachea), _____.
X ray of the lung(s), _____.
collection of air in the chest cavity, _____.
pertaining to the nose, _____.
a "nose job," _____.
pain in the pleura, _____.
pertaining to absence of breathing, _____.

83.

Here's one last exercise to show how far you have come! For each area of medical concern, write the term describing a practicing specialist

	AREA OF MEDICAL CONCERN	SPECIALIST
Pathologist	Bodily changes in structure and function due to disease	_____
Psychiatrist	Mental illness	_____
Dermatologist	Skin and its diseases	_____
Gynecologist	Diseases of women	_____
Cardiologist	Diseases of the heart	_____
Neurologist	Nervous system diseases	_____
Pediatrician	Childhood illnesses	_____
Obstetrician	Pregnancy and childbirth	_____
Ophthalmologist	Diseases of the eye	_____
Urologist	Conditions of urogenitals	_____

84.

Try it again. Describe the area of medical concern for these specialists.

	SPECIALIST	AREA OF MEDICAL CONCERN
Bones and muscles	Orthopedist	_____
Pregnancy and childbirth	Obstetrician	_____
Old age, aging	Geriatrician	_____
Causes of epidemics	Epidemiologist	_____
Skilled diagnosing	Diagnostician	_____
Anesthesia and pain	Anesthesiologist	_____
Urinary and genitals	Urologist	_____
Tumors and treatment	Oncologist	_____
Ear, nose, throat, and voice box	Otorhinopharyngolaryngologist	_____

85.

Here are 50 more medical terms you have worked with in Unit 10. Don't forget to pronounce each one carefully before taking the final Unit 10 Self-Test.

apnea (ap' nē ə)	blepharorrhaphy (blef ar ōr' ā fē)
bradypnea (brad ip nē' ə)	blepharoptosis
blepharedema (blef' ar ə dē' mä)	(blef ar op tō' sis)

bronchitis (brong kī' tis)	ophthalmalgia (of' thal mal' jē ə)
bronchoscopy (brong kos' kō pē)	ophthalmoscope (of thal' mō skōp)
corectasia (kōr ek tā' zē ə)	pharyngitis (fair in jī' tis)
corectopia (kōr ek tō' pē ə)	pharyngotomy (fair in got' ō mē)
coreometer (kōr ē om' e ter)	pleuralgia (plōō ral' jē ə)
coreoplasty (kōr' ē ō plas tē)	pleurisy (plōōr' i sē)
corneal (kor' nē al)	pleurocentesis (plōōr' ō sen tē' sis)
cyclokeratitis (sī' klō ker i tī' tis)	pneumohemothorax (nyōō mō hē mō thōr' aks)
cycloplegia (sī klō plē' jē ə)	pneumonia (nyōō mō' nē ə)
diaphragm (dī' a fram)	retinitis (ret i nī' tis)
diplopia (di plō' pē ə)	retinopathy (ret i nop' ə thē)
epistaxis (ep i stak' sis)	retinoscopy (ret i nos' kō pē)
hemoptysis (hē mop' ti sis)	rhinoplasty (ri' nō plas tē)
iridectomy (ir i dek' tō mē)	sclerectomy (skler ek' tō mē)
iridocele (ir id ō sēl)	sclerotome (skler' ə tōm)
iridoplegia (ir id ō plē' jē ə)	singultus (sing gul' tus)
iritis (ī rī' tis)	tracheorrhagia (trā kē ō rāj' jē ə)
keratome (ker' ə tōm)	tracheostomy (trā kē os' tō mē)
keratoplasty (ker' ə tō plas tē)	thorax (thor' aks)
keratoscleritis (ker' ə tō skler ī' tis)	thoracocentesis (thōr' ə kō sen tē' sis)
keratotomy (ker a tōt' ō mē)	
laryngeal (la rin' jē al)	
laryngospasm (la ring' gō spazm)	
nasolacrimal (nā zō lak' ri məl)	
nasopharyngitis (nā' zō fair in jī' tis)	

Unit 10 Self-Test**Part 1**

From the list on the right, select the correct meaning for each of the following often used medical terms.

- | | |
|--------------------------|---|
| _____ 1. Pneumonectomy | a. Nosebleed |
| _____ 2. Keratoscleritis | b. Spitting blood |
| _____ 3. Pleurocentesis | c. Pertaining to nose and chin |
| _____ 4. Corectasia | d. Stretching (dilation) of the pupil |
| _____ 5. Pleuralgia | e. Puncture of the pleural space to remove fluid |
| _____ 6. Blepharedema | f. Pain of the pleura |
| _____ 7. Hemoptysis | g. Instrument to cut the cornea |
| _____ 8. Ophthalmologist | h. Paralysis of the iris |
| _____ 9. Nasomental | i. Inflammation of cornea and sclera |
| _____ 10. Iridoplegia | j. Resembling the retina |
| _____ 11. Tracheorrhagia | k. Swollen eyelids due to fluid in the tissues |
| _____ 12. Keratome | l. Physician who specializes in the study of eye diseases |
| _____ 13. Epistaxis | m. Hemorrhage from the trachea |
| _____ 14. Retinoid | n. Inflammation of the bronchi |
| _____ 15. Bronchitis | o. Surgical removal of a lung |

Part 2

Write the medical term for each of the following brief definitions.

1. Air in the chest cavity _____
2. Pertaining to nose and tears _____
3. Incision into the throat _____
4. Hiccough _____
5. Instrument to examine the eye _____
6. Plastic surgery of the cornea _____
7. Double vision _____
8. Drooping eyelid _____
9. Pain in the covering of the lung _____
10. Permanent opening into the windpipe _____
11. Inflammation of the iris _____
12. Spasm of the voice box _____
13. Pertaining to the cornea _____
14. Nosebleed _____
15. Very fast breathing _____

ANSWERS**Part 1**

1. o
2. i
3. e
4. d
5. f
6. k
7. b
8. l
9. c
10. h
11. m
12. g
13. a
14. j
15. n

Part 2

1. Pneumothorax
2. Nasolacrimal
3. Pharyngotomy
4. Singultus
5. Ophthalmoscope
6. Keratoplasty
7. Diplopia
8. Blepharoptosis
9. Pleurodynia
10. Tracheostomy
11. Iritis
12. Laryngospasm
13. Corneal
14. Epistaxis
15. Tachypnea

Review Sheets

Unit 1: Review Sheet

Part 1

Cover the column of words on the right. In the space provided write the meaning of each word part listed in the left column. Check your answers.

Word Part	Meaning	(Hide This Column)
acr/o-	_____	extremity
megal/o-	_____	enlargement
dermat/o-	_____	skin
cyan/o-	_____	blue
derm/o-	_____	skin
leuk/o-	_____	white
-itis	_____	inflammation
cardi/o-	_____	heart
gastr/o-	_____	stomach
cyt/o-	_____	cell
-ologist	_____	one who studies
-algia	_____	pain
-ectomy	_____	excision
-otomy	_____	incision
-ostomy	_____	new opening
duoden/o-	_____	duodenum
electr/o-	_____	electricity
-ology	_____	study of
-osis	_____	condition of
-tome	_____	instrument that cuts
gram/o-	_____	record
eti/o-	_____	cause of
path/o-	_____	disease

Now, do Part 2.

Part 2

Cover the word parts in the right-hand column. In the space provided write a suffix or word part that expresses the meaning of each word in the left column. Check your answers.

Meaning	Word Part	(Hide This Column)
record	_____	gram/o-
one who studies (suffix)	_____	-ologist
enlargement	_____	megal/o-
electric	_____	electr/o-
white	_____	leuk/o-
incision into (suffix)	_____	-otomy
blue	_____	cyan/o-
instrument that cuts (suffix)	_____	-tome
stomach	_____	gastr/o-
extremity	_____	acr/o-
(abnormal) condition of (suffix)	_____	-osis
changes due to disease	_____	path/o-
new opening formed (suffix)	_____	-ostomy
skin	_____	dermat/o-, dermat
study of (suffix)	_____	-ology
heart	_____	cardi/o-
excision (suffix)	_____	-ectomy
inflammation of (suffix)	_____	-itis
duodenum	_____	duoden/o-
pain (suffix)	_____	-algia
cell	_____	cyt/o-
cause of	_____	eti/o-

Unit 2: Review Sheet

Part 1

Cover the column of words on the right. In the space provided write the meaning of the word parts listed in the left column. Check your answers.

Word Part	Meaning	(Hide This Column)
aden/o-	_____	gland
carcin/o-	_____	cancer
malac/o-	_____	soft, softened
-oid	_____	resembling
laryng/o-	_____	larynx
cephal/o-	_____	head
hyper-	_____	excessive, more than normal
-cele	_____	herniation
ost/o-, oste/o-	_____	bone
arthr/o-	_____	joint
chondr/o-	_____	cartilage
cost/o-	_____	rib
lip/o-	_____	fat
inter-	_____	between
dent/o-, dont/o	_____	tooth
-emesis	_____	vomiting
-oma	_____	tumor
-plast/o, -plast/y	_____	repair
hypo-	_____	under, less than normal
troph/o-	_____	development
morph/o-	_____	structure and form
muc/o-	_____	mucus
onc/o-	_____	tumor
hist/o-	_____	tissue(s)
en-, endo-	_____	inside, within
ex-, exo-	_____	out, completely outside

Part 2

Cover the column on the right while you work. In the space provided, write the word part or combining form that matches the definition listed in the left column.

Meaning	Word Part	(Hide This Column)
rib	_____	cost/o-
larynx	_____	laryng/o-
development	_____	troph/o-
cancer	_____	carcin/o-
repair (suffix)	_____	-plast/o(/y)
tooth	_____	dent/o-, dont/o
mucus	_____	muc/o-
under, less than normal	_____	hypo-
herniation (suffix)	_____	-cele
soft, softened	_____	malac/o-
gland	_____	aden/o-
tumor (suffix)	_____	-oma
bone	_____	oste/o-
vomiting (suffix)	_____	-emesis
head	_____	cephal/o-
joint	_____	arthr/o-
between (prefix)	_____	inter-
resembling (suffix)	_____	-oid
fat	_____	lip/o-
inside, within (prefix)	_____	en-, endo-
cartilage	_____	chondr/o-
excessive, more than normal (prefix)	_____	hyper-
tissue	_____	hist/o-
structure and form	_____	morph/o-
tumor(s)	_____	onc/o-
out, completely outside (prefix)	_____	ex-, exo-

Unit 3: Review Sheet

Part 1

Cover the column of words on the right. In the space provided write the meaning of each word part listed in the left column. Check your answers.

Word Part	Meaning	(Hide This Column)
cyst/o-	_____	bladder
-ar	_____	pertaining to
crani/o-	_____	cranium (skull)
dipl/o-	_____	double
ab-	_____	away from
cocc/i-	_____	coccus
metr/o, meter-	_____	measure
py/o-	_____	pus
-genesis, gen/o-	_____	produce, originate
-orrhoea	_____	flow
ot/o-	_____	ear
-centesis	_____	puncture
rhin/o-	_____	nose
lith/o-	_____	stone or calculus
hydro-	_____	water
chol/e-	_____	gall, bile
thorac/o-	_____	thorax or chest
pelv/i-	_____	pelvis
ad-	_____	toward
abdomin/o-	_____	abdomen
therap/o-	_____	treatment
cephal/o-	_____	head, cranium
phob/ia	_____	fear
cardi/o	_____	heart

Now, do Part 2.

Part 2

Cover the word parts on the right. In the space provided write a term that expresses the meaning of each word in the left column. Check your answers.

Meaning	Word Part	(Hide This Column)
water, watery fluid	_____	hydro-
flow, discharge (suffix)	_____	-orrhea
abnormal fear	_____	phob/ia
double, pairs	_____	dipl/o-
head	_____	cephal/o
pelvis	_____	pelv/i-
gall, bile	_____	chol/e-
nose	_____	rhin/o-
puncture of a cavity (suffix)	_____	-centesis
pus	_____	py/o-
treatment	_____	therap/o-
toward the midline (prefix)	_____	ad-
produce, originate (suffix, prefix)	_____	-genesis, gen/o-
bladder	_____	cyst/o-
coccus	_____	cocc/i-, cocc/o
measure	_____	metr/o-, meter-
stone or calculus	_____	lith/o-
ear	_____	ot/o-
thorax or chest	_____	thorac/o-
cranium (skull)	_____	crani/o-
away from the midline (prefix)	_____	ab-
abdomen	_____	abdomin/o-

Unit 4: Review Sheet

Part 1

Cover the right-hand column. Write the meaning of each word or word part in the left column. Be sure to check your answers.

Word/ Word Part	Meaning	(Hide This Column)
-peps/ia	_____	digestion
neur/o-	_____	nerve
blast/o-	_____	immature cell form, germ cell
a-, an-	_____	without
angi/o-	_____	vessel
-spasm	_____	twitching, spasm
scler/o-	_____	hard, hardened
-tachy	_____	fast
aneurysm	_____	ballooning-out vessel
fibr/o-	_____	fibrous, fiber
lys/o-	_____	destruction, dissolution
pne/o-	_____	breathe, breathing
arteri/o-	_____	artery
men/o-	_____	menses, menstruation
hemat/o-, hemo-	_____	blood
kinesi/o-	_____	movement
spermat/o-	_____	spermatozoon, spermatozoa (plural)
oophor/o-	_____	ovary
-pexy	_____	fixation
salping/o-	_____	fallopian tube
dys-	_____	bad, painful, difficult
hyster/o-	_____	uterus
-ptosis	_____	prolapse, drooping
-brady	_____	slow
anomaly	_____	irregularity, breaks the rule
ur/o-	_____	urine

(Continued on next page)

nephr/o-	_____	kidney
pyel/o-	_____	renal pelvis
ureter/o-	_____	ureter
-orrhaphy	_____	to suture, repair
urethr/o-	_____	urethra
-orrhagia	_____	hemorrhage
colp/o-	_____	vagina
crypt/o-	_____	hidden
orchid/o-	_____	testis, testes (plural)
hernia	_____	protrusion through cavity wall

Part 2

Meaning	Word/Word Part	(Hide This Column)
artery	_____	arteri/o-
vessel	_____	angi/o-
uterus	_____	hyster/o-
movement	_____	kinesi/o-
destruction, dissolution	_____	lys/o-
blood	_____	hemat/o-, hem/o-
protrusion through cavity wall	_____	hernia
urine	_____	ur/o-
hard, hardening	_____	scler/o-
slow (prefix)	_____	brady-
fallopian tube	_____	salping/o-
muscle	_____	my/o-
without (prefix)	_____	a-, an-
nerve	_____	neur/o-
surgical fixation (suffix)	_____	-pexy
germ cell (immature)	_____	blast/o-
ballooning-out vessel	_____	aneurysm
ovary	_____	oophor/o-
breathe	_____	pne/o-
digestion	_____	-peps/ia
prolapse, drooping	_____	-ptosis
bad, painful, difficult (prefix)	_____	dys-
spermatozoa (pl.)	_____	spermat/o-
fibrous, fiber	_____	fibr/o-
twitching (suffix)	_____	-spasm
fast, rapid (prefix)	_____	tachy-
hemorrhage (suffix)	_____	-orrhagia
renal pelvis	_____	pyel/o-
vagina	_____	colp/o-
ureter	_____	ureter/o-
kidney	_____	nephro-
irregularity, breaks the rule	_____	anomaly

(Continued on next page)

urethra	_____	urethr/o-
to suture, repair (suffix)	_____	-orrhaphy
hidden	_____	crypt/o-
testes (pl.)	_____	orchid/o-
menses, menstruation	_____	men/o-

Congratulations!

Unit 5: Review Sheet

Part 1

Cover the right-hand column. Write the meaning of each word or word part in the left column. Be sure to check your answers.

Word/ Word Part	Meaning	(Hide This Column)
stomat/o-	_____	mouth
gloss/o-	_____	tongue
cheil/o-	_____	lips
gingiv/o-	_____	gums
esophag/o-	_____	esophagus
enter/o-	_____	small intestine
-scope	_____	instrument to look, examine
col/o-	_____	colon
rect/o-	_____	rectum
proct/o-	_____	anus and rectum
hepat/o-	_____	liver
pancreat/o-	_____	pancreas
clys/o, -clysis	_____	wash, irrigate
-ectasia	_____	dilation, stretching
-spasm	_____	twitching, cramping
dent/o-	_____	teeth, tooth
toxin	_____	poison, poisoning
hypo-	_____	under, beneath
hyper-	_____	excessive
-algia	_____	pain, ache
-osis	_____	abnormal, diseased condition
-ostomy	_____	surgery to form a new opening (permanent)
-otomy	_____	incision into
-ectomy	_____	surgical removal of
-pexy	_____	surgical fixation of a part in its normal place

Part 2

Meaning	Word/Word Part	(Hide This Column)
cramping, twitching	_____	spasm
liver	_____	hepat/o-
excessive (prefix)	_____	hyper-
small intestine	_____	enter/o-
surgical incision into (suffix)	_____	-otomy
surgery to form a new opening (suffix)	_____	-ostomy
pertaining to teeth	_____	dental
rectum and anus	_____	proct/o-
lips	_____	cheil/o-
wash, irrigate (suffix)	_____	-clysis
esophagus	_____	esophag/o-
colon	_____	col/o-
gums	_____	gingiv/o-
mouth	_____	stomat/o-
pain, ache (suffix)	_____	-algia
dilation, stretching (a suffix)	_____	-ectasia
pancreas	_____	pancreat/o-
rectum	_____	rect/o-
tongue	_____	gloss/o-
surgical fixation of a part in normal place (suffix)	_____	-pexy
look, examine (suffix)	_____	-scopy

Unit 6: Review Sheet

Part 1

Cover the right-hand column. Write the meaning of each word or word part listed in the left-hand column in the space provided. Be sure to check your answers.

Word/ Word Part	Meaning	(Hide This Column)
phleb/o-	_____	vein
dys-	_____	bad, difficult, painful
-orrhexis	_____	rupture, bursting apart
-esthesia	_____	sensation, feeling
fibrillation	_____	very rapid heartbeat
-algisia	_____	sensation of pain
phas/o-	_____	speech
thrombosis	_____	occlusion of a blood vessel by a blood clot
-tripsy	_____	surgical crushing
plas/o-	_____	formation, development
syn-, sym,	_____	together as one
a-, an-	_____	without, absent
embolus	_____	foreign particle floating in bloodstream
dactyl/o-	_____	fingers, toes, digits
cardiac arrest	_____	cessation of heartbeat
-emia	_____	blood
embolism	_____	vessel occluded, blocked by an embolus
myel/o-	_____	spinal cord, or bone marrow
poly-	_____	many
micro-	_____	very small, microscopic
defibrillation	_____	restoration of regular heartbeat (often with electric shock)
thrombus	_____	blood clot in the bloodstream

Part 2

Meaning	Word/Word Part	(Hide This Column)
a blood clot in the bloodstream	_____	thrombus
sensation, feeling	_____	-esthesia
speech	_____	phas/o-
sensation of pain	_____	-algesia
vein	_____	phleb/o-
vessel occluded by an embolus	_____	embolism
restoration of regular heartbeat often by electric shock	_____	defibrillation
foreign particle circulating in the bloodstream	_____	embolus
formation, development in the sense of shaping, molding	_____	plas/o-
rupture, bursting apart (suffix)	_____	-orrhexis
bad, difficult, painful (prefix)	_____	dys-
surgical crushing (suffix)	_____	-tripsy
very, very small (prefix)	_____	micro-
large, seen by human eye (prefix)	_____	macro-
bone marrow or spinal cord	_____	myel/o-
finger or toe, digit	_____	dactyl/o-
many (prefix)	_____	poly-
together as one (prefix)	_____	syn-, sym-
very fast heartbeat	_____	fibrillation
blood (suffix)	_____	-emia

Unit 7: Review Sheet

Part 1

Word/ Word Part	Meaning	(Hide This Column)
edema	_____	fluid in the tissues
chronic	_____	long, drawn-out disease
syndrome	_____	symptoms occur together
prognosis	_____	prediction of course and outcome of disease
acute	_____	pertaining to severe symptom, rapid onset, short course
paroxysmal	_____	pertaining to sudden periodic attack
diagnosis	_____	identification of disease
tinnitus	_____	ringing in the ear
malaise	_____	vague sensation of not feeling well
vertigo	_____	sensation of turning around in space
anorexia	_____	loss of appetite
symptom	_____	perceived change in body or functions
pyrexia	_____	feverishness
mortality	_____	pertaining to being mortal
morbidity	_____	pertaining to being diseased
hypertrophy	_____	overdevelopment
atrophy	_____	wasting away, shrinking of an organ
systemic	_____	pertaining to the whole body, all systems

(Continued on next page)

vital signs	_____	T, P, and R
peripheral	_____	pertaining to the outside surface of the body
chlor/o-	_____	green
melan/o-	_____	black
erythr/o-	_____	red
xanth/o-	_____	yellow
prophylactic	_____	pertaining to prevention of disease
prodromal	_____	pertaining to phase of disease before symptoms
nausea	_____	seasickness, inclined to vomit
palliative	_____	pertaining to relief of symptoms, not cure
against (prefix)	_____	anti-
dyspnea	_____	difficult, painful breathing
hypothermia	_____	subnormal temperature, below 90°F

Part 2

Meaning	Word/Word Part	(Hide This Column)
symptoms occur together	_____	syndrome
prediction of course and outcome of disease	_____	prognosis
pertaining to severe symptom, rapid onset, short course	_____	acute
wasting away, shrinking of an organ	_____	atrophy
pertaining to the whole body, all systems	_____	systemic
T, P, and R	_____	vital signs
fluid in the tissues	_____	edema
long, drawn-out disease	_____	chronic
pertaining to sudden periodic attack	_____	paroxysmal
identification of disease	_____	diagnosis
ringing in the ear	_____	tinnitus
vague sensation of not feeling well	_____	malaise
sensation of turning around in space	_____	vertigo
loss of appetite	_____	anorexia
perceived change in body or functions	_____	symptom
statistic pertaining to being diseased	_____	morbidity
pertaining to relief of symptoms, not cure	_____	palliative
fever	_____	pyret/o-, pyrexia

(Continued on next page)

pertaining to phase of disease before symptoms	_____	prodromal
pertaining to prevention of disease	_____	prophylactic
yellow	_____	xanth/o-
red	_____	erythr/o-
seasickness, inclined to vomit	_____	nausea
black	_____	melan/o-
green	_____	chlor/o-
pertaining to the outside surface of the body	_____	peripheral
breathing reaches a climax, then ceases before starting again	_____	Cheyne-Stokes respiration
difficult, painful breathing	_____	dyspnea
overdevelopment	_____	hypertrophy
statistic pertaining to being mortal	_____	mortality
feverishness	_____	pyret/o-, pyrexia
loss of appetite	_____	anorexia
symptoms occurring before the onset of the disease	_____	prodrome

Unit 8: Review Sheet

Part 1

Word/ Word Part	Meaning	(Hide This Column)
supra-, super-	_____	above, over
cyst	_____	closed sac containing fluid
neoplasm	_____	new tissue growth, no purpose
lesion	_____	unhealthy, diseased tissue
infra- ectopic	_____ _____	below, beneath, under outside the normal place
ect/o- papule, papula	_____ _____	outside raised red spot, pimple
peri-, circum- ventral	_____ _____	around, about, nearby on or near the belly
epi-	_____	over, upon, surrounding
distal	_____	point farthest from trunk
dorsal epigastric	_____ _____	on or near the back area of the belly over the stomach
proximal	_____	point nearest to the trunk
papilloma	_____	nipple-shaped tumor on skin
lateral	_____	farther from the midline
infiltration	_____	slipping into and between normal cells
sub-, hypo- excrecence medial	_____ _____ _____	below, beneath outgrowth, wart nearer to the midline

(Continued on next page)

papilla	_____	small, nipple-like protuberance
condyloma	_____	perianal wartlike growth
benign	_____	not spreading, not malignant
end/o- malignant	_____	inner, inside bad kind, threatening death
tumor, neoplasm	_____	new, abnormal tissue growth
metastasis	_____	cells spread to new location
polyp	_____	tumor on a little foot, or stem
circumscribed	_____	as a line drawn around, edge
mes/o-	_____	middle

Part 2

Meaning	Word/Word Part	(Hide This Column)
new, abnormal tissue growth	_____	tumor
cells spread to new location	_____	metastasis
middle (prefix)	_____	mes/o-
point nearest to the trunk	_____	proximal
perianal wartlike growth	_____	condyloma
not spreading, not malignant	_____	benign
inner, inside (prefix)	_____	end/o-
bad kind, threatening death	_____	malignant
closed sac containing fluid	_____	cyst
as a line drawn around, edge	_____	circumscribed
area of the belly over the stomach	_____	epigastric
new tissue growth, no purpose	_____	neoplasm
unhealthy, diseased tissue	_____	lesion
beneath the patella	_____	subpatellar, infrapatellar
outside the normal place	_____	ectopic
raised red spot, pimple	_____	papule, papula
around, circular (prefix)	_____	circum-
on or near the belly	_____	ventral
above the pubic arch	_____	suprapubic
below, beneath, under (prefix)	_____	infra-, sub-, hypo-
on or near the back	_____	dorsal

(Continued on next page)

slipping into and between normal cells	_____	infiltration
tumor on a little foot over, surrounding (prefix)	_____ _____	polyp epi-
around, about, nearby (prefix)	_____	peri-
under the skin	_____	hypodermic
point farthest from trunk	_____	distal
nipple-shaped tumor on skin	_____	papilloma
farther from the midline	_____	lateral
removal and examination of living tissue	_____	biopsy

Unit 9: Review Sheet

Part 1

Word/ Word Part	Meaning	(Hide This Column)
conception	_____	union of ovum and spermatozoon
ovum	_____	female egg cell
peritoneum	_____	thin membrane that coats the viscera and lines the abdominal wall
secundi- fetus	_____ _____	second developing child in utero
spermatozoon	_____	male germ cell
parturition	_____	labor and delivery of term pregnancy
multi- nulli- postpartum	_____ _____ _____	many none time period after giving birth
mastopathy	_____	breast disease
hysterorrhexis	_____	rupture of uterus (life threatening)
metratrophy	_____	uterine atrophy
anteartum	_____	time period before labor
prenatal	_____	before childbirth
oligo- hydramnios	_____ _____	scanty amount of amniotic fluid
mamm/o-, mast/o- amniot/o-	_____ _____ _____	breast amnion (sac for fetus and fluid)
-atrophy	_____	wasting of an organ or part
primipara	_____	a woman who has given birth for the first time

(Continued on next page)

-dynia	_____	pain, painful
-mania	_____	madness
-phobia	_____	excessive fear
-gravida	_____	heavy with child; a pregnant woman
men/o-	_____	menses, menstruation
involution	_____	process of uterus returning to nonpregnant state
climacteric	_____	change of life period
placenta	_____	organ that nourishes fetus in utero
gynecomastia	_____	enlarged breasts in a male
puerperium	_____	period after childbirth; involution takes place
pudenda	_____	female external genitals
gestation	_____	another term for pregnancy
amniocentesis	_____	puncture of amniotic sac and removal of fluid
perineum	_____	pelvic floor; region from vaginal lip to anus in female

Part 2

Meaning	Word/Word Part	(Hide This Column)
female external genitals	_____	puddenda
menses, menstruation	_____	men/o-
madness (suffix)	_____	-mania
female egg cell	_____	ovum
wasting of an organ or part (suffix)	_____	-atrophy
another term for pregnancy	_____	gestation
puncture of amniotic sac and removal of fluid	_____	amniocentesis
enlarged breasts in a male	_____	gynecomastia
breast disease	_____	mastopathy
breast (2 combining forms)	_____	mast/o-, mamm/o-
none (prefix)	_____	nulli-
many (prefix)	_____	multi-
developing child in utero	_____	fetus
male germ cell	_____	spermatozoon
cessation of menses	_____	menopause
pregnant woman, first time	_____	primigravida
incision of vagina and pelvic outlet	_____	episiotomy
excessive fear (prefix)	_____	phobia-
pain, painful (suffix)	_____	-dynia, -algia
process of uterus returning to nonpregnant state	_____	involution
rupture of uterus (life threatening)	_____	hysterorrhexis
woman who has given birth to a living child	_____	para
pelvic floor; region from vaginal lip to anus in female	_____	perineum

(Continued on next page)

period after childbirth; involution takes place	_____	puerperium
amnion (sac for fetus and fluid)	_____	amni/o-, amniot/o-
organ that nourishes fetus in utero	_____	placenta
few, little, scanty (prefix)	_____	oligo-
before labor	_____	anteartum
change of life period	_____	climacteric
physician specialist in diseases of women	_____	gynecologist
before (prefix)	_____	pre-
after (prefix)	_____	post-
new, recent (prefix)	_____	neo-
labor and delivery of term pregnancy	_____	parturition
X ray examination of breast	_____	mammography
thin membrane that coats viscera and abdominal wall	_____	peritoneum
union of ovum and spermatozoon	_____	conception
uterine atrophy	_____	metratrophy
pain, painful (suffix)	_____	-dynia, -algia
heavy with child; a pregnant woman	_____	gravida

Unit 10: Review Sheet

Part 1

Word/ Word Part	Meaning	(Hide This Column)
nas/o-	_____	nose
blephar/o-	_____	eyelid
scler/o-	_____	hard white coat of the eye
pharyng/o-	_____	pharynx, throat
ir, irid/o-	_____	iris, donut-shaped color of the eye
dipl/o-	_____	double, paired
laryng/o-	_____	larynx, voice box
pneumon/o-	_____	lung
bronch/o-	_____	bronchus(i), branches of the trachea
ophthalm/o-	_____	eye
retin/o-	_____	retina, complex membrane on the inside back surface of the eyeball
pleur/o-	_____	pleura, covering on the lungs
core-, core/o-	_____	pupil, circular opening in the center of the eye
pne/o-	_____	breathing, breathe
lacrim/o-	_____	tear, tears
ment/o-	_____	chin
kerat/o-, corne/o-	_____	cornea, transparent covering of anterior one-sixth of the eye
-opia	_____	suffix meaning vision
thorac/o-	_____	thorax, chest
cycl/o-	_____	ciliary body, controls the shape of the iris
pneum/o-	_____	air, gases
trache/o-	_____	windpipe, trachea
singultus	_____	hiccup, hiccough

(Continued on next page)

hemoptysis	_____	spitting of blood derived from the lungs, bronchi
diaphragm	_____	musculo-membranous wall separating the abdomen from the thorax
epistaxis	_____	nosebleed

Part 2

Meaning	Word/Word Part	(Hide This Column)
nose	_____	nas/o-
breathing, breathe	_____	pne/o-
iris	_____	ir-, irid/o-
larynx, voice box	_____	laryng/o-
cornea, transparent anterior covering of one-sixth of the eye	_____	kerat/o-, corne/o-
nosebleed	_____	epistaxis
spitting blood derived from the lungs, trachea	_____	hemoptysis
suffix meaning vision	_____	-opia
musculomembranous wall separating the abdomen from the thorax	_____	diaphragm
air, gases	_____	pneum/o-
retina, complex membrane on the inside back surface of the eyeball	_____	retin/o-
pleura, covering on the lungs	_____	pleur/o-
eyelid	_____	blephar/o-
tear, tears	_____	lacrim/o-
windpipe, trachea	_____	trache/o-
pupil, circular opening in the center of the eye	_____	cor-, core-, core/o-
hard white coat of the eye	_____	scler/o-
pharynx, throat	_____	pharyng/o-
bronchus(i), branches of the trachea	_____	bronch/o-
lung	_____	pneumon/o-
ciliary body, controls shape of the iris	_____	cycl/o-

(Continued on next page)

thorax, chest	_____	thorac/o-
chin	_____	ment/o-
double, paired	_____	dipl/o-
eye	_____	ophthalm/o-
hiccup, hiccough	_____	singultus

Congratulations on finishing your lessons.
Take the other Final Test after some rest and relaxation.

Final Self-Test I

Instructions

The following two tests will show you how much you have learned about medical terminology. Many of the words on the tests will be new to you; however, using the word parts and the word-building system you have learned, you should be able to give the meaning for all of them. Try these tests and see how well you do. You may want to take one test before reading the book and the other after you finish the book. The comparison will show even more clearly how much medical terminology you have learned.

Each test consists of 50 medical terms. For each term, write out a definition in your own words. Then compare your answers with those following the test. Your definition should include all of the ideas (though not necessarily in the exact words) as the definitions on the answer page.

1. Tachypnea _____
2. Oophoritis _____
3. Pyelonephrosis _____
4. Pathogenic _____
5. Bradycardia _____
6. Cycloparalysis _____
7. Glossoplegia _____
8. Megalodontia _____
9. Ophthalmoscopy _____
10. Bronchopneumonogram _____
11. Mammopexy _____
12. Cystocele _____
13. Cephalometer _____
14. Herniorrhaphy _____

15. Hyperthyroidism _____
16. Bronchiectasis _____
17. Mastodynia _____
18. Xanthemia _____
19. Symptomatology _____
20. Etiology _____
21. Kinesialgia _____
22. Fibroosteoma _____
23. Anuria _____
24. Lipochondroma _____
25. Costectomy _____
26. Ureteroenterostomy _____
27. Metrorrhagia _____
28. Paranephritis _____
29. Blepharoptosis _____
30. Erythrocyte _____
31. Perianal _____
32. Endocarditis _____
33. Lymphadenoid _____
34. Thoracolumbar _____
35. Corneiritis _____
36. Hysterorrhexis _____
37. Thrombogenesis _____
38. Hematemesis _____
39. Lithotripsy _____
40. Oligohydramnios _____
41. Prostatic hypertrophy _____
42. Hemoptysis _____
43. Dorsalgia _____

- 44. Endocranial _____
- 45. Parturition _____
- 46. Adenocarcinoma _____
- 47. Esophagogastrostomy _____
- 48. Enterohepatitis _____
- 49. Malaise _____
- 50. Dyspnea _____

Answers to Final Self-Test I

1. rapid breathing
2. inflammation of an ovary
3. condition (abnormal or diseased) of the pelvis of the kidney
4. that which is capable of causing disease
5. slow heart rate
6. paralysis of the ciliary body
7. paralysis of the tongue
8. excessively large teeth
9. examination of the interior of the eye
10. X ray of the bronchi and lungs
11. surgical fixation of a breast to its normal position
12. hernia of the bladder
13. instrument for measuring the head
14. suturing (repair) of a hernia
15. condition caused by excessive secretion of the thyroid glands
16. dilatation of the bronchi
17. painful breast
18. yellow pigment (color) in the blood
19. the study (science) of disease symptoms
20. the study of causes of disease
21. painful muscular movement
22. tumor of bone and fibrous connective tissue
23. absence of urine
24. tumor of cartilaginous and fatty tissue
25. excision of a rib or ribs
26. make a permanent opening between the ureter and intestine
27. uterine hemorrhage
28. inflammation of tissues around (surrounding) the kidney
29. drooping of an eyelid
30. red blood cell
31. of or pertaining to around the anus
32. inflammation of the inside (lining) of the heart
33. resembling a lymph gland
34. of or pertaining to the chest (thorax) and lower back (lumbar)
35. inflammation of the iris and cornea
36. rupture of the uterus
37. formation (development) of a clot (thrombus)
38. vomiting blood
39. crushing removal of a stone
40. scanty amniotic fluid
41. pertaining to enlargement of the prostate
42. spitting blood (from trachea, bronchi, or lungs)
43. pain in the back
44. of, or pertaining to, the inside of the head
45. labor and childbirth
46. malignant tumor of a gland
47. making a new opening (permanent) between the esophagus and the stomach
48. inflammation of the liver and intestine
49. vague sensation of not feeling well
50. difficult or painful breathing

Final Self-Test II

1. Mastoptosis _____
2. Epistaxis _____
3. Amenorrhea _____
4. Antipyretic _____
5. Nephrolith _____
6. Enterectasia _____
7. Paroxysmal _____
8. Encephalorrhagia _____
9. Craniocoele _____
10. Anorexia _____
11. Gingivoglossitis _____
12. Cholecystitis _____
13. Abdominalgia _____
14. Arteriospasm _____
15. Adenosclerosis _____
16. Duodenohepatic _____
17. Endobronchoscopy _____
18. Iridoplegia _____
19. Tracheostomy _____
20. Syndactyly _____
21. Phleborrhexis _____
22. Cryptorchidism _____
23. Thromboid _____

24. Electroencephalogram _____
25. Myelodysplasia _____
26. Singultus _____
27. Intercostal _____
28. Epigastric _____
29. Urethrocystitis _____
30. Hypothyroidism _____
31. Traumatology _____
32. Pericardiectomy _____
33. Syndrome _____
34. Hepatorrhaphy _____
35. Megalodactylysm _____
36. Nephropexy _____
37. Pneumonmelanosis _____
38. Cerebrovascular _____
39. Chondromalacia _____
40. Amniocentesis _____
41. Inframammary _____
42. Leukocytolysis _____
43. Salpingectomy _____
44. Hemodialysis _____
45. Metastasis _____
46. Cyanopia _____
47. Ophthalmopathy _____
48. Pneumohemothorax _____
49. Otorhinolaryngologist _____
50. Primagravida _____

Answers to Final Self-Test II

1. pendulous, drooping breast
2. nosebleed
3. cessation of menstruation
4. a substance that counteracts (acts against) the effects of a fever
5. a stone (calculus) in the kidney
6. dilatation (stretching) of the small intestine
7. of, or pertaining to, a sudden recurrent onset of a condition (convulsions)
8. hemorrhage within the brain
9. hernia of structures in the skull (cranium)
10. loss of appetite
11. inflammation of the gums and tongue
12. inflammation of the gallbladder
13. painful abdomen
14. spasm (twitching) of an artery
15. condition of hardening of glandular tissue
16. of, or pertaining to, the duodenum and liver
17. examination of the inside of the bronchi
18. paralysis of the iris
19. making a new permanent opening in the trachea
20. webbing or fusion of fingers or toes
21. rupture of a vein
22. condition due to hidden (undescended) testes
23. resembling a blood clot
24. record (picture) of electrical activity in the brain
25. abnormal development of the spinal cord
26. hiccup, hiccough
27. between the ribs
28. of, or pertaining to, area of belly over stomach
29. inflammation of the urethra and bladder
30. condition of insufficient thyroid excretion
31. the study (science) of injuries and their effect on the body
32. excision of tissue around the heart
33. a group of symptoms occurring together
34. suturing (repairing) the liver
35. condition of abnormally large fingers and toes
36. surgical fixation of the kidney in its normal place
37. condition of black lungs, black lung disease
38. of, or pertaining to, the vessels of the brain
39. condition of softened cartilage tissue
40. puncture of the amniotic sac and withdrawing of fluid
41. below the breast
42. destruction of white blood cells
43. surgical removal of the fallopian tube
44. removal of toxic waste products from the blood
45. spreading of a malignant disease to another organ or location
46. blue vision
47. abnormal condition of the eyes
48. air and blood in the chest cavity
49. physician specialist in ear, nose, and voice box diseases
50. a woman pregnant for the first time

Appendix A:

Medical Abbreviations

ad libitum (ad. lib.)	As much as wanted; freely
ante cibum (a.c.)	Before meals
bis in die (b.i.d.)	Twice daily
(b.p.)	Blood pressure
cubic centimeter (cc.)	Cubic centimeter(s)
cum (/c)	With
en.	Enema
gram (g.)	Gram or grams
granum (gr.)	Grain or grains
gutta, guttae (gtt.)	Drop or drops
hoc nocte (h.n.)	Tonight
hora somni (h.s.)	At bedtime
l.	Liter(s)
oculus dexter (O.D.)	Right eye
oculus sinister (O.S.)	Left eye
oz.	Ounce
per anum (p.a.)	By, or through, the anus
per os (p.o.)	By, or through, the mouth
post cibum (p.c.)	After meals
pro re nata (p.r.n.)	According to circumstances
quaque die (q.d.)	Every day
quaque hora (q.h.)	Every hour
quater in die (q.i.d.)	Four times daily
signa (sig.)	Let it be labeled
sine (/s)	Without
statim (stat.)	Immediately; at once
suppositoria (suppos.)	Suppository
tabella (tab.)	Tablet
ter in die (t.i.d.)	Three times daily
T.	Temperature

Appendix B: Forming Plurals

The following chart contains information about the formation of plurals from the singular form. Use it to work the frames that follow.

To Form Plurals	
If the singular ending is	The plural ending is
a	ae (pronounce ae as ī)
us	i
um	a
ma	mata
on	a
is	es
ix	ices
ex	ices
ax	aces
	} The word root is usually built from the plural forms of words ending in ix, ex, and ax (e.g., radix, radic/es, radic/otomy, radic/i/form).

bursae
bur' sī
conjunctivae
kon junk' tī vē
bacilli
bə sil' ē

1.
Form the plural of
bursa _____;
conjunctiva _____;
bacillus _____.

vertebra
ver' tə bra
nucleus
nōō' klē us
cornea
kor' nē ə

2.
Give the singular form of
vertebrae _____;
nuclei _____;
cornea _____.

atria
 ā' trē ə
 cocci
 kok' sē
 ilea
 (you pronounce)
 il' ē ə

3.
 Form the plural of

atrium _____;
 coccus _____;
 ileum _____.

enema
 en' ə mā
 bacterium
 ovum
 (you pronounce)

4.
 Give the singular form of

enemata _____;
 bacteria _____;
 ova _____.

cortices
 kor' ti sēz
 fibromata
 fī brō' mā tā
 protozoa
 prō' to zō' ə

5.
 Form the plural of

cortex _____;
 fibroma _____;
 protozoon _____.

stigma
 stig' mā
 prognosis
 prog nō' sis
 spermatozoon
 sper mat' ə zō ən

6.
 Give the singular form of

stigmata _____;
 prognoses _____;
 spermatozoa _____.

appendices
 (you pronounce)
 diagnoses
 dī ag nō' sēz
 ganglia
 gang' lē ä

7.
 Form the plural of

appendix _____;
 diagnosis _____;
 ganglion _____.

8.
 Refer to the table. Give the word root that usually refers to

the appendix _____;

cortic the cortex _____;

thorac the thorax _____.

(you pronounce)

9.

With this new knowledge, which you found for yourself, build a word meaning inflammation of the appendix,

appendic/itis

_____ / _____;

a pen di sī' tis

cortic/al

pertaining to the cortex,

kor' ti kəl

_____ / _____;

thorac/o/centesis

surgical puncture of the thorax,

thor' ə kō sen tē' sis

_____ / _____ / _____.

10.

Form the plural of

apices

apex _____;

fornices

fornex _____;

varices

varix _____;

sarcomata

sarcoma _____;

septa

septum _____;

radii

radius _____;

maxillae

maxilla _____.

(you pronounce)

11.

There are other ways of forming plurals. They apply to only a few words. When you meet these words and have a question about how their plural forms are built, consult a medical dictionary.

Index of Words and Word Parts

The following words and word parts are listed by page number.

- abdominal, 47
- abdominalgia, 283, 285
- abdominal paracentesis, 182
- abdominocentesis, 47
- abdominocystic, 48
- abdominothoracic, 49
- abduction, 45, 187
- aberrant, 44
- abiotic, 125
- acrocyanosis, 4
- acrodermatitis, 3
- acromegaly, 3
- active, 139, 161
- acute, 139, 158
- acute gastritis, 158
- acute polyneuritis, 159
- acute tendonitis, 159
- adduction, 45
- adenectomy, 23
- adenitis, 23
- adenocarcinoma, 281, 282
- adenoma, 23
- adenosclerosis, 283, 285
- adermia, 125
- adhesion, 45
- afebrile, 126
- akinesia, 125
- alopecia, 182
- amenia, 125
- amenorrhea, 125, 205
- amniocentesis, 209
- amniography, 210
- amnion, 209
- amniotic fluid, 209
- amniotic sac, 209
- amniotome, 210
- analgesia, 125
- anastomosis, 182
- anemia, 125
- anemic, 125
- anencephalus, 125
- anesthesia, 124
- anesthesiologist, 125, 245
- anesthesiology, 124
- aneurysm, 84
- angioblast, 70
- angiofibroma, 71
- angiolysis, 71
- angiorrhexis, 123
- angi sclerosis, 70
- angiospasm, 70
- anodontia, 126
- anomaly, 84
- anonychia, 125
- anopia, 125
- anorexia, 139, 153
- antepartum, 213
- antipyretic, 142
- anuresis, 125
- anuria, 125
- aphasia, 126
- aplasia, 127
- apnea, 68, 125, 145, 242
- apneic, 244
- arteriomalacia, 71
- arteriosclerosis, 71
- arteriospasm, 71
- arthritis, 33
- arthroplasty, 33
- arthrotomy, 33
- asepsis, 125
- asteocondritis, 34
- astomia, 126
- asymptomatic, 143, 145
- athersclerotic plaque, 117
- atrophy, 139, 150
- benign, 169, 174
- biopsy, 174
- blastoderm, 170
- blepharedema, 227
- blepharitis, 227
- blepharoptosis, 226
- blepharorrhaphy, 227
- blepharospasm, 227
- bradycardia, 66, 143, 145
- bradykinesia, 66
- bradyphasia, 126
- bradypnea, 67, 145
- bronchiectasis, 280, 282
- bronchitis, 239
- bronchopneumogram, 279, 282
- bronchoscopy, 239
- bronchospasm, 239
- carcinogenic, 39
- carcinoma, 24
- cardiac arrest, 115, 117
- cardialgia, 12
- cardioangiogram, 121
- cardiocentesis, 47
- cardiologist, 10
- cardiology, 17
- cardiomegaly, 7
- cardiorrhexis, 123
- carditis, 8
- cauterization, 182
- central, 139, 144
- cephalalgia, 29
- cephalgia, 29
- cephalic, 30, 50
- cephalometer, 279, 282
- cerebrospinal, 52
- cerebrovascular, 284, 285
- cerebrum, 52
- cheilitis, 98
- cheiloplasty, 98
- cheilosis, 99
- cheilostomatoplasty, 99
- cheilotomy, 99
- chemotherapy, 182
- Cheyne-Stokes respiration, 145
- chlorocyte, 148
- chloropia, 147
- cholecyst, 58
- cholecystectomy, 59, 177
- cholecystitis, 58
- cholelith, 58
- cholelithotomy, 59, 128
- cholelithotripsy, 126
- cholemesis, 152
- chondrectomy, 34

- chondritis, 34
chondrodysplasia, 127, 128
chondromalacia, 284, 285
chronic, 139, 158
chronic polyarthritis, 159
chronic tendonitis, 159
circumduction, 187
circumintestinal, 190
circumocular, 192
circumoral, 187
circumrenal, 187
circumscribed, 187
climacteric, 195, 203
colic, 105
colitis, 106
colocentesis, 105
coloclysis, 104
coloplexy, 104
colostomy, 26, 104
colpitis, 80
colpoplasty, 81
colporrhaphy, 82
colposcope, 81
colpospasm, 80
colpotomy, 80
conception, 195, 205
condyloma, 180
corectasia, 232
corectopia, 232
coreometry, 234
coreoplasty, 232
corneal, 230
corneal keratitis, 280, 282
corneal scleral, 230
coronary thrombosis, 117
costectomy, 280, 282
craniectomy, 51
craniocele, 283, 285
craniocerebral, 52
craniometer, 51
cranioplasty, 51
craniotomy, 51
cranium, 52
cryptorchidism, 75
cyanoderma, 5, 147
cyanopia, 147, 226
cyanosis, 4
cyclitis, 233
cyclocryotherapy, 232
cyclokeratitis, 233
cycloparalysis, 232
cycloplegia, 234
cyst, 169, 177
cystectomy, 48, 178
cystitis, 48, 177
cystocele, 62
cystoplasty, 49
cystorrhagia, 89
cystorrhexis, 123
cystotomy, 48
cytology, 6
dactylitis, 130
dactylogram, 130
dactylomegaly, 130
dactylospasm, 130
defibrillation, 115, 117
dehiscence, 182
dental, 111
dentalgia, 35, 99
dentoid, 35
dermatitis, 9
dermatologist, 3, 48
dermatome, 5
dermatosis, 5
diagnosis, 156
diagnostician, 245
diaphragm, 237, 240
dilation, 212
diplobacteria, 226
diplococci, 57
diplopia, 226
disease, 9
distal, 169
dorsal, 169, 183
dorsalgia, 185
duction, 187
duodenal, 14
duodenitis, 14
duodenocholecystostomy, 108
duodenohepatic, 283, 285
duodenostomy, 14
duodenotomy, 14
duodenum, 7
dysmenorrhea, 68, 203
dyspepsia, 68
dysphasia, 126
dysplasia, 127
dyspnea, 68, 139, 145
ectocytic, 172
ectoderm, 170, 171
ectogenous, 172
ectopic, 172, 173
edema, 139, 150
electrocardiogram, 11
electrocardiography, 11
electroencephalogram, 284, 285
electroencephalography, 35
embolism, 115, 117
embolus, 115, 117
embryo, 195, 207
emesis, 152
emetic, 152
encephalitis, 30
encephalocele, 32
encephaloma, 30
encephalopathy, 35
encephalorrhagia, 283, 285
endobronchoscopy, 283, 285
endocarditis, 30, 172
endocranial, 172
endocystoscopy, 172, 177
endoderm, 170, 171
endogenous, 31, 173
endometrium, 203, 211
endomyometritis, 203
endoscopy, 172
endosteoma, 40
enterectasia, 104
enterocele, 104
enterocentesis, 105
enterocholecystostomy, 108
enteroclysis, 104
enterohepatitis, 281, 282
enterorrhexis, 123
enterotoxin, 104
epicranium, 188
epidemiologist, 245
epidermis, 188
epigastralgia, 187
epigastric, 187
epigastrocele, 188
episiorrhaphy, 215
episiotomy, 195, 215
epistaxis, 241, 242
erythroblast, 148
erythrocyte, 148
erythroderma, 147, 155
esophagoduodenostomy, 108
esophagoectasia, 109
esophagogastroduodenoscopy, 82
esophagogastroscope, 108
esophagogastrostomy, 108
esophagogastrotomy, 281, 282
esthesia, 115
esthesiometer, 125
etiologic, 16
etiology, 9
excrescence, 180
exogenous, 31
expulsion, 212
extramarginal, 188
extrauterine, 188
extravisual, 190
fetus, 195, 207, 208
fibrillation, 115, 117
fibroosteoma, 280, 282
gastralgia, 12
gastractasia, 104
gastroctomy, 13
gastric, 104
gastritis, 13, 104
gastroduodenostomy, 13
gastroenteralgia, 110
gastroenteric, 105
gastroenterocolostomy, 108
gastroenterostomy, 105
gastromegaly, 8
gastrorrhagia, 104

- generalized, 139, 149
 geriatrician, 245
 gestation, 195, 206
 gingivalgia, 99
 gingivectomy, 99
 gingivitis, 99
 gingivoglossitis, 99
 glossalgia, 113
 glossectomy, 99
 glossitis, 98
 glossoplegia, 279, 282
 glossospasm, 110
 gynecologist, 196
 gynecomania, 196
 gynecomastia, 198
 gynephobia, 196
 gynopathic, 196
 gynoplasty, 196
- hemangiitis, 72
 hematemesis, 152, 241
 hematologist, 72
 hemodiagnosis, 156
 hemodialysis, 284, 285
 hemolysis, 72
 hemoptysis, 241
 hemothorax, 244
 hemolysis, 72
 hematology, 72
 hepatectomy, 111
 hepatic, 107
 hepatitis, 107
 hepatomegaly, 107
 hepatorrhagia, 124
 hepatorrhaphy, 284, 285
 hepatoscopy, 107
 hepatotomy, 107
 hermatemesis, 280, 282
 hernia, 83
 herniorrhaphy, 133
 histology, 37
 hydrocephalus, 50
 hydrocyst, 177
 hydrophobia, 50
 hydrotherapy, 50, 242
 hyperemesis, 22
 hyperesthesia, 125
 hyperpnea, 145, 146
 hyperpyrexia, 142, 145
- hyperthyroidism, 22
 hypertrophy, 139, 150
 hypertrophy, 22
 hypochondrium, 190
 hypodermal, 28
 hypodermic, 23, 190
 hypoaesthesia, 125
 hypoglossal, 98, 188
 hypoplasia, 127
 hypothermia, 142
 hypothyroidism, 284, 285
 hysterectomy, 81, 201
 hysterocele, 202
 hysteromyoma, 201
 hysteropathy, 201
 hysteropexy, 81
 hysteroptosis, 84
 hysterorrhesis, 135, 202
 hysterosalpingo-
 oophorectomy, 82
 hysterospasm, 81
 hysterotomy, 81, 201
- infiltration, 169, 174
 inframammary, 188
 infrapatellar, 188
 infrapubic, 190
 infrasternal, 189
 intercostal, 34
 involution, 195, 216
 iridalgia, 231
 iridectomy, 231
 iridocoele, 231
 iridocorneal, 231
 iridoplegia, 247
 iritis, 231
- keratome, 247
 keratopathy, 230
 keratoplasty, 230
 keratoscleritis, 247
 kinesialgia, 66
 kinesiologia, 66
 Korsakoff's syndrome,
 160
- labor, 195, 212
 lacrimal, 234
- laryngectomy, 239
 laryngitis, 26, 238
 laryngocele, 238
 laryngoscope, 239
 laryngospasm, 239
 laryngostomy, 28
 laryngotomy, 39
 lateral, 169, 184
 lesion, 169, 176
 leukemia, 6
 leukocyte, 6, 148
 leukocytolysis, 284, 285
 leukoderma, 5
 lipochondroma, 280, 282
 lipoid, 24
 lipolysis, 71
 lipoma, 24
 lithogenesis, 58
 lithotomy, 58
 lithotripsy, 135
 localized, 139, 149
 lymphadenoid, 280, 282
- macrocephalus, 129
 macrocheilia, 129
 macrococcus, 129
 macrocyte, 129
 macrodactylia, 129
 macroglossia, 129
 macrorhinia, 129
 macroscopic, 129
 macrotia, 129
 malaise, 139, 152
 malignant, 169, 173
 mammalgia, 199, 221
 mammary, 198, 199
 mammitis, 197
 mammogram, 197
 mammography, 197
 mammology, 199
 mammopexy, 198, 279,
 282
 mammoplasty, 199
 mania, 196
 manifestation, 9
 mastadenitis, 198
 mastalgia, 199
 mastectomy, 197
 mastitis, 197
- mastocarcinoma, 198
 mastodynia, 199
 mastoncus, 198
 mastopathy, 197
 mastoptosis, 197
 mastotomy, 197
 medial, 169, 184
 megalocardia, 6
 megalodactylism, 284,
 285
 megalodontia, 279, 282
 megalogastria, 8
 melanoblast, 148
 melanocarcinoma, 148
 melanoderma, 147
 Ménière's syndrome, 154
 menometrorrhagia, 203
 menopause, 195, 203
 menorrhagia, 203
 menorrhoea, 203
 menses, 203
 menstruation, 203
 mesoderm, 170, 171
 metastasis, 169, 175
 metastasize, 175, 176
 metratrophy, 202
 metritis, 201
 metroparalysis, 201
 metrorrhagia, 202
 metrorrhoea, 202
 metroscope, 202
 micrometer, 129
 micron, 129
 midline, 184
 morbid, 176
 morbidity, 139, 164
 morphology, 37
 mortality, 139, 164
 mucoid, 25
 multipara, 217
 myelitis, 126
 myelodysplasia, 127
 myelogram, 128
 myoblast, 70
 myofibroma, 71
 myolysis, 71
 myometrium, 203
 myosclerosis, 71
 myospasm, 70

- nasolacrimal duct, 234
nasomental, 247
nausea, 139, 152
necrobiosis, 182
neonatal, 221
neoplasm, 169, 173
nephrolith, 93
nephropexy, 284, 285
nephroplasty, 90
nephropexy, 90
nephroptosis, 85
nephrorrhaphy, 88
neuralgia, 126
neuroblast, 70
neurofibroma, 71
neurologist, 245
neurolysis, 71
neuromyelitis, 135
neurorrhaphy, 88
neurospasm, 70
neurotripsy, 126
nullipara, 217
- obstetrician, 245
oligohydramnios, 210
oncologist, 39, 245
oncology, 37
ooblast, 78
oophorectomy, 78
oophoritis, 78
oophoroma, 78
oophoropexy, 79
ophthalmocele, 226
ophthalmologist, 226
ophthalmology, 225
ophthalmomalacia, 225
ophthalmopathy, 284, 285
ophthalmoplegia, 226
ophthalmoscope, 226, 232
ophthalmoscopy, 279, 282
orchidalgia, 75
orchiditis, 75
orchidopexy, 76
orchidotomy, 75
orexia, 153
orexigenic, 153
oreximania, 153
- orthopedist, 245
osteitis, 32
osteochondrodysplasia, 128
osteomalacia, 32
otalgia, 56
otitis, 56
otorhinolaryngologist, 284, 285
otorhinopharyngolaryngologist, 245
otorrhea, 55
ovum, 195, 205, 206
- pancreatotomy, 107
palliative, 139, 162
pancreatectomy, 107
pancreatitis, 107
pancreatolith, 107
pancreatolysis, 107
papilla, 169, 179
papilloma, 169, 179
papule, 169, 179
paranephritis, 280, 282
paroxysm, 159
paroxysmal, 139, 158
paroxysmal dyspnea, 158
paroxysmal tachycardia, 158
parturition, 195, 212, 213
patella, 188
pathogenic, 35
pathological, 35
pathologist, 10, 38
pathology, 9, 35
pediatrician, 245
pelvic, 47
pelvimeter, 51
pelvimetry, 51
perianal, 280, 282
pericardiectomy, 284, 285
peridontal (peridental), 186
perineum, 195, 214
perioral, 187
peripheral, 139, 144
perirenal, 187
- peritoneum, 195, 215
peritonsillar, 186
periumbilical, 186
peritonitis, 215
pharyngoplasty, 238
phlebitis, 121
phleborrhaxis, 123
phleboscrosis, 121
phlebotomy, 121
phobia, 196
placenta, 195, 210
pleura, 171
pleural, 240
pleuralgia, 247
pleurisy, 240
pleuritis, 238, 240
pleurocentesis, 247
pleurodynia, 244
pneodynamics, 144
pneometer, 144
pneumarthrosis, 242
pneumatic, 242
pneumatiocardia, 242
pneumaturia, 242
pneumoencephalography, 243
pneumohemothorax, 284, 285
pneumology, 242
pneumonectomy, 243
pneumonia, 243
pneumonitis, 243
pneumonmelanosis, 284, 285
pneumothorax, 244
polyarthritis, 130
polydactylism, 130, 159
polyhydramnios, 210
polyneuralgia, 130
polyneuritis, 130
polyp, 169, 178
polypectomy, 178
polyuria, 130
postpartum, 213
primigravida, 211
primipara, 216
proctectasia, 108
proctologist, 106
proctoscope, 106
- proctoscopy, 107
prodromal, 161
prodrome, 139, 160
prognosis, 139, 157
prognosticate, 157
prophylactic, 139, 162
prostatic hypertrophy, 280, 282
protococlysis, 106
proximal, 169, 185
psychiatrist, 245
ptosis, 84
pudenda, 195, 214
puerperal peritonitis, 216
puerperal (sepsis), 216
puerperium, 195, 216
pulse, 139, 143
pyelitis, 87
pyelonephritis, 87
pyelonephrosis, 87
pyeloplasty, 87
pyogenic, 54
pyorrhea, 55
pyretogen, 142, 146
pyretolysis, 142, 146
pyrexia, 141
- radiation, 182
radical resection, 183
rectal, 106
rectocele, 106
rectoclysis, 106
rectocystotomy, 106
respiration, 139
retinal, 231
retinitis, 231
retinoid, 231, 247
retinopathy, 232
retinopexy, 232
retinoscope, 232
rhinitis, 56
rhinolith, 58
rhinoplasty, 56, 244
rhinorrhagia, 241, 242
rhinorrhoea, 56, 124
rhinotomy, 56
- salpingectomy, 79
salpingitis, 79

- salpingo-oophorectomy, 80
 salpingo-oophoritis, 80
 salpingorrhaphy, 124
 salpingoscope, 79
 salpingostomy, 79
 scleral, 230
 sclerectasia, 230
 sclerectomy, 230
 sclerotome, 230
 secundigravida, 211
 sepsis, 216
 singultus, 240
 spermatoblast, 76
 spermatogenesis, 76
 spermatoid, 76
 spermatolysis, 76
 spermatozoon, 205, 206
 staphylococci, 54
 stomatalgia, 99
 stomatitis, 97
 stomatoma, 110
 stomatoplasty, 98
 stomatorrhagia, 98
 streptococci, 54
- a/an, 6, 65, 68, 115, 124
 ab, 43, 44
 abdomin/o, 43, 47
 acr/o, 1
 ad, 43, 45
 aden/o, 21, 23
 al, 21, 24
 algesia, 115, 125
 algia, 1, 12
 amni/o, 195, 209
 amniot/o, 195, 209
 angi/o, 65, 70, 115, 121
 an/o, 103, 214
 anti, 139, 142
 ar, 21, 24, 43
 arter/i/o/, 65, 70
 arthr/o, 21, 33
 ary, 195
 atrophy, 195
- subabdominal, 190
 sublingual, 188
 submammary, 188
 subpatellar, 188
 substernal, 189
 supralumbar, 190
 suprapubic, 189
 suprasternal, 189
 symbiosis, 132
 symbolism, 131
 symmetrical, 131
 sympathy, 132
 symphysis, 131
 symptom, 140, 141
 symptomatology, 280, 282
 synarthrosis, 131
 syndactylism, 131
 syndactyly, 283, 285
 syndrome, 132, 139, 140, 159
 synergetic, 131
 systemic, 139, 149
- tachycardia, 67, 143
- bio, 173
 blast/o, 65, 70, 127
 blephar/o, 223, 226
 brady, 65, 66
 bronch/i/o, 223, 238
- carcin/o, 21, 24
 cardi/o, 1, 6
 cele/o, 21, 31, 224
 centesis, 43, 47
 cephal/o, 21, 29, 43
 cerebr/o, 29
 cheil/o, 95, 97
 chlor/o, 139, 147
 chol/e, 43, 58
 cholecyst/o, 103
 chondr/o, 21, 34, 190
 circum, 169, 186
 clysis, 95, 104
 cocc/i, 43, 53
 col/o, 26, 95, 103
- colp/o, 65, 78, 80
 core, cor/o, 223, 232
 corne/o, 223
 cost/o, 21, 24
 crani/o, 29, 43
 crypt/o, 65, 75
 cyan/o, 1, 4, 147
 cycl/o, 223, 232
 cyst/o, 43, 48, 78, 87
 cyt/o, 1, 6
- dactyl/o, 115
 dent/o, 21, 35, 95, 97
 dermat/o, 1, 3
 di/a, 89
 dipl/o, 43, 54, 223, 226
 dors/o, 183
 drome, 159
 duoden/o, 1, 13, 103
- tachyphasia, 126
 tachypnea, 67, 145
 temperature, 139, 141
 thoracic, 49
 thoracocentesis, 49, 243
 thoracolumbar, 280, 282
 thoracoplasty, 49
 thoracotomy, 49, 243
 thorax, 243
 thrombectomy, 122
 thromboangitis, 122
 thrombocyte, 122
 thrombogenesis, 280, 282
 thromboid, 122
 thrombophlebitis, 122
 thrombosis, 115, 117
 thrombus, 115, 117
 thyroidectomy, 23
 tinnitus, 139, 154
 trachealgia, 239
 tracheorrhagia, 239
 tracheostomy, 239
 tracheotomy, 26
 traumatology, 284, 285
 tumor, 173
- umbilicus, 189
 ureteroenterostomy, 280, 282
 ureterolithotomy, 88
 ureterorrhagia, 89
 ureterorrhaphy, 88
 ureterotomy, 89
 urethrocystitis, 284, 285
 urethrorrhaphy, 89
 urethrospasm, 89
 urethrotomy, 92
 urologist, 245
 urology, 90
 uterus, 209
- ventral, 169, 183
 ventrodorsad, 184
 ventrotomy, 184
 vertigo, 139, 154
 vital signs, 141, 143
 vomitus, 152
- xanthemia, 280, 282
 xanthopsia, 147
- dynia, 195
 dys, 65, 68, 115
- ectasia, 95, 104, 224
 ecto, 169
 ectopic, 224
 ectomy, 1, 12
 electr/o, 1, 11
 emes/is, 21, 22
 emia, 6, 115
 en, 21, 30
 end/o, 169
 enter/o, 103
 epi, 169, 187
 erythr/o, 139, 147
 esophag/o, 95, 103, 218
 esthesia, 124
 eti/o, 1, 10
 ex, ex/o, 21, 30, 169
 extra, 187

- fibr/o, 65, 70
gastr/o, 1, 8, 103
genesis, 43, 54
gen/o, 43, 57, 142, 172
gingiv/o, 95, 97, 99
gloss/o, 95, 97
gram/o, 1, 11
gravida, 195, 211
gyn/o, 195
gynec/o, 195, 196
hem/o, 65, 70, 72, 241
hepat/o, 95, 103, 107, 241
hist/o, 21, 70
hydr/o, 43, 49
hyper, 21, 22
hypo, 21, 23, 169, 187
hyster/o, 65, 78, 81, 195, 201
ia, 65, 70
ic, 21, 23
infra, 169, 187
inter, 21, 34
ir, irid/o, 213, 231
ism, 21, 22
itis, 1, 3, 8, 224
kerat/o, 230
kinesi/o, 65, 66
lacrim/o, 223
laryng/o, 21, 26, 223, 238
leuk/o, 1, 5, 147
lip/o, 21, 24, 70
lith/o, 43, 58
lys/is/o, 65, 70, 142
macro, 115, 129
malac/ia/o, 21, 32, 70
mamm/o, 195, 197
mania, 195
mast/o, 195, 197
megal/o, 1, 2
melan/o, 139, 147
men/o, 65, 69, 195, 203
ment/o, 223
meso, 169
meta, 175
meter, 43, 224
metr/o, 43, 51, 195, 201, 224
micro, 115, 129
morph/o, 21, 37
muc/o, 21, 25
multi, 195
my/o, 65, 70, 201
myel/o, 115, 127
nas/o, 223, 238
neo, 213
nephro, 65, 85, 87
neur/o, 70, 126
nulli, 195, 217
o/o, 78
ocele, 202
oid, 21, 24, 224
olig/o, 195, 210
ologist, 1, 3
ology, 1, 6, 10, 66
oma, 21, 23, 70
onc/o, 21, 37
oophoro, 78
ophthalm/o, 223, 225
opia, 226
opsy, 173
orchid/o, 75
orexia, 153
orrhagia, 65, 124
orrhaphy, 65, 88, 124, 224
orrhoea, 43, 55, 124
orrhoeis, 115, 123, 202
osis/o/y, 1, 4, 70
oste/o, 21, 32
ostomy, 1, 13, 26
ot/o, 43, 55
otomy, 1, 14
pancreat/o, 95, 103, 107
para, 195, 217
path/o, 1, 10
pathy, 195, 224
pelv/i, 43, 51
peps/ia/o, 68
peri, 169, 186
pexy, 65, 79, 224
pharyng/o, 26, 103, 223, 238
phas/o, 115
phleb/o, 115, 121
phobia, 30, 43, 195
plasm, 173
plas/o/ia, 115, 127
plast/o/y, 21, 33, 224
plegia, plegic, 226
pleur/o, 223
pne/o, 67, 144
pneum/o, 223, 238, 242
pneumon/o, 121, 223, 238, 242
poly, 115, 130, 159
post, 195
pre, 195
primi, 195, 211
pro, 157
proct/o, 95, 103
prostat/o, 75
ptosis, 65, 83, 197, 224
ptysis, 241
py/o, 43, 54
pyel/o, 87
pyret/ic/o, 139, 141
rect/o, 95, 103, 106
retin/o, 223, 231
rhin/o, 43, 56
salping/o, 78, 79
scler/o, 70, 223, 230
scope, scopy, 95, 224
secundi, 195, 211
spasm, 65, 70, 224
sperm, 65, 75
spermat/o, 75, 76
staphyl/o, 43, 54
stasis, 175
stomat/o, 95, 97
strept/o, 43, 54
sub, 169, 187
super, 169, 187
supra, 169, 187
sym, syn, 115, 131
tachy, 65, 67
therap/o, 43, 50, 224
thorac/o, 43, 49, 223, 243
thromb/o, 122
tome, 1, 5, 224
top/o, 172
toxin, 95, 104
trache/o, 21, 26, 223, 238
tripsy, 115, 129
troph/o, 21,
ur/o, 87
ureter/o, 75, 87
urethr/o, 75, 78, 87, 214
vagin/o, 214
ventr/o, 183
xanth/o, 139, 147
y, 2, 65, 70