

Medical Literacy Bridge



By Jack McGrath





Medical Literacy Bridge

Acknowledgments

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Introduction: Medical Literacy Bridge

Lessons

1. Introduction to Medical Terminology
2. DVD Instructions
3. Memory Techniques

A Bridge to Medical Terminology


Congratulations on your decision to become a medical professional. The health care industry has been identified as an area of high employment growth and our goal is to make you a part of this professional team. One of the most challenging tasks in becoming a medical professional is learning medical terminology. We have designed a vocational English bridge course that will provide you with the necessary tools to be successful in a medical terminology program.

An integral part of your success is developing good study habits and understanding how you as an individual learn best. Since any medical terminology course requires an enormous amount of memorization, you will be introduced to a number of memory techniques from which you can determine which works best for you.

The text *Medical Terminology Simplified* was our main reference in writing this program and is envisaged as the standard text to be used with the course. However, other medical terminology books can be used. The underpinning language, diagrams and activities will provide you with the necessary background to succeed in a medical terminology course regardless of which text is used.

In addition, we have created a glossary of key words that will appear in your medical textbook that will build your English vocabulary and prepare you to learn the medical language you will need in the medical field.

DVD instructions

To aid in your acquisition of medical terminology we have provided a DVD to be used along with the workbook. Next to the instructions of various lessons and activities you will see the DVD icon. () This icon indicates that there is a complementary exercise on the DVD for you to view. Simply follow the directions in the workbook that pertain to the DVD.

Memory Techniques

The Medical Terminology course requires that you remember hundreds of words. There are many learning methods that can help you remember new vocabulary. Throughout this course you will have a chance to try the memory tools listed below. See which ones work best for you and use them while learning new vocabulary.

1. Flashcards

Using flashcards is a great way to aid memory. Buy a package of 3x5 cards and cut them in half. Write the word you want to learn on one side of the card and the

definition on the other. While taking the Medical Terminology course always carry a stack of cards with you so you can study when you have a free moment. Even when watching TV you can study your cards during the commercials. Once you learn a word put that card in another stack for review and focus on the cards with words that are giving you trouble. Write the words that are giving you trouble on a piece of paper numerous times. Writing the words will help you remember them.

2. Talk About It

When memorizing words it helps to say them out loud. Say the word and then its definition in your own words, as if you were explaining the meaning to someone. Work with a partner and say the words to them and then have them say the words to you. If you are studying body parts, organs and bones, point to where the organ is on your body, then explain the function of the body part.

3. Teach It

A great way to remember something is to teach it to someone. Explain the material in your own words and be ready to answer questions. If no one is available to be your student *pretend* you are teaching someone. Better yet, find a student from your class to be a study partner and take turns being the teacher and student. That way you will hear the material twice as much.

4. Make Lists

Buy a small notebook that will fit in your purse or pocket. Make a list of the words you are learning with a brief definition next to it. Cover either the word or definition and see if you can remember the word or what it means. If you don't remember the word, write it on another piece of paper 5 times. Give yourself quizzes often.

5. Vivid Associations

Try putting new information together with something you know well. It doesn't have to make sense, it can be silly or funny. If you were trying to remember the word "eclampsia" you could associate it with "He can't see ya." If you were trying to remember the combining form "metacarp," you could imagine shaking hands with a fish, (carp).

When memorizing the body parts or organs think of vivid, colorful pictures of them. Find colorful pictures in your text or on the internet and imagine them when learning associated words.

6. Acronyms

You form acronyms by using each first letter from a group of words to form a new word or group of letters. For example if you were remembering the parts of the

vertebral column you could use the acronym CTLSC, for the cervical, thoracic, lumbar, sacral, and coccyx.

7. Review Frequently

If possible, review your notes and new vocabulary an hour after class while it is still fresh in your mind. Then review as often as possible. This is why a small notebook or flashcards are so important. You can review while in line at the bank or supermarket or waiting for someone. Rewriting your notes and new words will also aid the memory process.

8. Record and Listen to Yourself

If you don't have one, buy a small tape recorder. They are for sale frequently at yard sales and second hand stores for under \$5. Record new vocabulary and listen to your pronunciation. This is a great learning technique for when you are driving or riding in a car or on a bus. Repeat the words out loud and imagine or say the definitions.

9. Write the words in a sentence

Write the words you are learning in a sentence. If you were learning the word "quadrant" you could write: *The stomach is in the left upper quadrant.* If possible have your teacher check your written sentence to make sure they are correct. Imagine the sentence you have written when you remember the word you are learning.

English Word Study and Medical Text Books

Medical professionals use special medical language at work. This medical terminology will be new to many of you. Medical terminology courses, books, and dictionaries use vocabulary that is probably not included in the English you use every day. In this chapter we will begin to provide you with the vocabulary you will need to be successful in learning medical terminology.

Chapter 1: Word Building

Lessons

1. Word Building Vocabulary
2. Parts of Speech
3. Syllables and Accents
4. Diacritical Marks
5. Special letter Groups and Their Sounds
6. Medical Word Elements
7. Latin and Greek Plural Suffixes
8. Abbreviations
9. Word Building Crossword

Lesson 1: Word Building Vocabulary



Using the glossary provided at the back of this book, define the words below.

Then, insert your DVD and from the menu click on Chapter 1, Lesson 1. Listen to the vocabulary words and repeat them after the instructor. To hear all the words in order, click on the “Play All” button. If you prefer to hear the words individually, click on the word that you want to hear.

analyze _____

bold (print) _____

capable _____

cell _____

column _____

combine _____

consonant _____

create _____

denote _____

derive _____

designate _____

determine _____

elements _____

enable _____

excision _____

feedback _____

hyphen _____

impaired _____

incision _____

indicate _____

link _____

malpractice _____
mispronunciation _____
modify _____
pertaining to _____
precede _____
refer _____
reinforce _____
relating to _____
summarize _____
terminology _____
vowel _____

Lesson 1 Activity 1: Pronunciation Practice

On your computer, log onto the Internet and type in one of the websites below in the search box. Then find the words in the Pronunciation List and click on the speaker icon. Listen to the pronunciation of the word. Repeat what you hear until you feel comfortable pronouncing the word.

Internet Medical References

- **English Dictionary:**
www.dictionary.com
- **English/Spanish Dictionary**
www.wordreference.com
- **Medical Pronunciation Guides**
www.wisc-online.com/Objects/ViewObject.aspx?ID=CLT1004
- **Medical Dictionary**
www.wikipedia.org/wiki/List_of_medical_roots_suffixes_and_prefixes

Pronunciation List:

column	combine	consonant	denote	precede	derive	designate
determine	elements	enable	excision	feedback	analyze	hyphen
impaired	incision	indicate		malpractice	reinforce	modify

Lesson 2: Parts of Speech

Medical words are usually one of four parts speech: **Nouns, Adjectives, Verbs, and Prepositions.**

- 1) A **Noun** is a word for a person, place, thing, idea, state or condition.
Here are some **examples of nouns**: doctor, hospital, California, money, headache, stomachache, fever, pain, illness, back, head, neck, chest, stomach, tooth, patient.
- 2) An **Adjective** is a word that describes a noun or pronoun.
Here are some examples of **adjectives**: Bad, awful, terrible, severe, slight, sharp, mild, major, minor, serious.
- 3) **Verbs** are words that tell us what a noun **does** or **is**. They describe: **action** or **state**.
Here are some examples of **verbs**: practice, wear, use, is, are, drive, eat, return, operate.
- 4) A **Preposition** is a word which relates one noun or pronoun to another word.
Here are some examples of **prepositions**: in, of, from, toward, for, at, through, on, around.

Lesson 2 Activity 1: Identify the Parts of Speech

Read the sentences. Circle the NOUNS. Underline the ADJECTIVES. Write a square around VERBS. Put parentheses around (PREPOSITIONS).

Example: The tired fireman sleeps (after) a hard night.

1. The medical community practices high standards.
2. Carolina is a healthy girl from California.
3. The doctor wears a white coat at the big hospital.
4. Modern medicine uses advanced technology with mixed results.
5. A healthy diet uses fresh fruit and green, leafy vegetables.
6. The red ambulance drove through the large parking lot around the tall hospital.
7. The brilliant surgeon removed the malignant tumor with a scalpel.
8. Sweet oranges, green mangos, and fresh strawberries are healthy fruit for young children.
9. Busy pediatricians make important decisions every day.

10. Successful doctors play amateur golf on large, green courses near the Pacific Ocean.

Lesson 3: Syllables and Accents

Syllables are parts of a word. All words have at least one syllable. Syllables can be just one letter or a group of letters. Every syllable has only one vowel sound. The word “book” has one syllable. The word “water” has two syllables: wa-ter. The word “syllables” has three syllables: syl-la-bles. Breaking words into syllables can help us to pronounce them. If you say a word slowly you can usually hear where the syllables are separated. When learning new words it helps to hear where the syllables are separated to guide you to pronounce the word correctly.

When a word has more than one syllable, one of the syllables always has more emphasis than the others. The syllable with the most emphasis is called the accented syllable. In this text, and in the Medical Terminology Simplified book, the accented syllable is shown with capital letters. The accent is often on the first syllable. The word “water” broken into syllables with the accent shown looks like this: WA-ter. The word “syllables” looks like this: SYL-la-bles.

Throughout this book we will be talking about *word roots*, *suffixes*, and *prefixes*.

- A *word root* is the main part of a word. In the word “teacher” the *word root* is *teach*. In the word “fastest” the *word root* is *fast*.
- A *suffix* is the part of a word that is added to the end of a word root. In the word “teacher,” *er* is the *suffix*. In the word “fastest” *est* is the *suffix*.
- A *prefix* is a part of a word that is added to the front of a word root. In the word “undo” the *prefix un* is attached to the word root “do.” In the word “nonprofit” the *prefix non* is added to the word root “profit.”

Adding a suffix or a prefix adds a syllable. In a word that has a suffix or a prefix the accent is usually on the word root.

TEACH-er FAST-est un-DO non-PROFIT

Lesson 3 Activity 1: Identify the Syllables and Accents

Say the words below out loud and listen for the syllable separations and the accents. Then draw a line through the word where you think the syllable separation should be and underline the accented syllable.

Example: <u>or</u> / gan	na vel	in side	ra pid
weak ness	liver	vomit	pre view
pregnant	untie	swallow	ingest

Lesson 4: Diacritical Marks

Diacritical marks are symbols placed over vowels (a, e, i, o, u) to aid in the correct pronunciation. A breve (˘) placed over a vowel shows that it has a short sound, as the *a* in *bat*. The macron (ˉ) placed over a vowel shows that it has a long sound, like the *a* in *make*. Familiarize yourself with the long and short vowel sounds in the chart below.

Long Vowel Sounds	Short Vowel Sounds
ā.....tāke, dāy, nāme	ă.....făt, răsh, āsthmă
ē.....bēgin, clēan, knēe	ĕ.....bĕd, rĕst, ĕpilĕpsy
ī.....līke, thīgh, īodīne	ĭ.....rĭb, stĭff, ĭnsulĭn
ō.....bōne, ōpen, grōwth	ŏ.....nŏt, clŏt, cŏnscious
ū.....ūse, ūnite, ūrethra	ŭ.....cŭt, mŭscle, skŭll

Lesson 4 Activity 1: Use Diacritical Marks

Below is a list of common words. Put a macron (ˉ) over the vowels with a long sound, and a breve (˘) over the vowels with a short sound.

- | | | |
|----------|----------|-----------|
| 1. bake | 6. bet | 11. be |
| 2. mop | 7. seem | 12. ripe |
| 3. win | 8. visit | 13. wet |
| 4. slice | 9. wake | 14. light |
| 5. shave | 10. kiss | 15. kick |

Lesson 4 Activity 2: Identify Long Vowel Sounds

Each sentence below only has one word with the long vowel sound. Read the sentences and circle the word with the long vowel sound.

1. Dr. Smith put his mask away.
2. The clinic is closed.
3. We can walk to the clinic.
4. The pink sheet is missing from the chart.
5. His skin is very dry.
6. Her three children were sick.

Lesson 5: Special Letter Groups and Their Sounds

In a medical word the placement of certain letters can change the sound they commonly make. Become familiar with the letter groupings below.

- When **p** and **n** are together at the beginning of a word, only the **n** is pronounced.
Examples: **p**neumonia; **p**neumatic
- When **p** and **n** are together in the middle of a word, both the **p** and **n** are pronounced.
Examples: hypop**n**ea; bradyp**n**ea
- When **p** and **s** are together at the beginning of a word, only the **s** is pronounced.
Examples: **p**sychology; **p**soriasis
- The **ch** sound can *sometimes* sound like **k**.
Examples: **ch**olesterol; **ch**ronic
- When **c** is followed by an **e**, **i**, or **y**, it has an **s** sound.
Examples: **c**ervical; **c**irculation; **c**yst
- When the vowels **ae** are together, only the second vowel is pronounced.
Examples: vertebra**e**; bursa**e**
- When a word ends with an **i** and is used to form the plural of the word, it is pronounced **eye**.
Example: fungi, alveoli

Lesson 5 Activity 1: Pronunciation Practice

Practice the dialog below with a partner. If no one is available, read both parts out loud several times.

Lesson 6: Medical Word Elements

- | | | |
|-----------------|------------------|-------------------|
| 1. pneumonia | 9. alveoli | 17. platypnea |
| 2. hypopnea | 10. vertebrae | 18. chorditis |
| 3. pneumatic | 11. cervical | 19. bursae |
| 4. bradypnea | 12. pneumothorax | 20. psychosomatic |
| 5. chemotherapy | 13. cholesterol | 21. chronic |
| 6. pseudoedema | 14. apnea | 22. psychology |
| 7. cyst | 15. fungi | 23. aciculae |
| 8. psoriasis | 16. circulation | 24. cephalic |

Medical Professionals make medical words with word *elements*. Elements are parts of a medical word. The four elements that form medical words are: *word roots*, *combining forms*, *suffixes*, and *prefixes*.

Word Roots

A **Word Root** is the most important element in a medical word. Every medical word needs a word root. The word root forms the central meaning of a word.

For example, the words learner, learning, and learns all have the word root *learn*.

Sometimes a word root is a word without the other elements. For example *teach* is a word root and a word.

Lesson 6 Activity 1: Identify Word Roots

Find the word roots in each of the following groups of words.

1. driver, driving, drives _____
2. washer, washing, washed _____
3. player, playful, playing _____
4. healer, healing, healthy, unhealthy _____

The word root of each of these words stands alone as a word.

Sometimes a word root isn't a word without other elements. These word roots need other elements to form actual words.

Here is an example: *leukoderma*, *leukocyte*, and *leukemia* all have the same word root, *leuk*, which means *white*. *Leuk* is not a word by itself. It needs other elements.

Combining Forms

In medical terminology a **Combining Form** is a root word + the vowel "o." The vowel has no meaning. It makes the word root ready to be linked to another element such as a suffix or another word root.

Here are some examples of combining forms:

therm/o/meter, dermat/o/logy, cardi/o/gram.

Using these examples:

therm is the word root; therm/o is the combining form

dermat is the word root; dermat/o is the combining form

cardi is the word root; cardi/o is the combining form

Now these combining forms are ready to be linked to a suffix or another word root.

Suffixes

A word element that is added to the end of a word root is called a **suffix**. It modifies the meaning of the word. A common English suffix is *est*. It means "the most."

Here are some examples:
fastest, tallest, and smallest.

Other common suffixes are:
-ed, -er, -al, and -tion.

Lesson 6 Activity 2: Identify Suffixes

Find the suffixes in each of the following groups of words.

1. visited, operated, washed _____
2. faster, smaller, colder _____
3. medical, normal, external, internal _____
4. education, digestion, inflammation, infection _____

The suffix **-ed** usually makes a verb past tense.

The suffix **-er** usually makes a comparative adjective.

The suffix **-al** usually makes an adjective.

The suffix **-tion** usually makes a noun from verb.

Note: *Suffixes have meaning but they do not stand alone as words.*

Prefixes

A word element that is added to the beginning of a word root is called a **prefix**. You can change the meaning of a word root by adding or substituting different prefixes. A common English prefix is **pre-**. It means “before.”

Here are some examples:
prefix, preview, prepare, predict.

Other common prefixes are:
re-, ex-, in-, and post-.

Lesson 6 Activity 3: Identify Prefixes

Find the prefixes in each of the following groups of words.

1. regain, reread, refund, respiration _____
2. exterior, expand, exhale, extend _____
3. interior, inside, inhale, intention, _____
4. postnatal, posthumous, postmortem _____

The prefix **re-** means “again.”

The prefix **ex-** means “outside.”

The prefix **in-** means “inside,” opposite of **ex-**.

The prefix **post-** means “after.”

Note: Prefixes have meaning but they are not words that can stand alone.

Lesson 6 Activity 4: Identify Prefixes, Suffixes, and Word Roots

Draw a line between the prefix and the word root in the words below.

Example: re/view

excision	retake	postdate	install	expose
indicate	reinforce	inspect	postpone	insert
refill	inflate	incision	exceed	resale

Draw a line between the suffix and the word root in the words below.

Example: insert/ed

reaction	normal	fasted	lighter	sensation
external	designated	heavier	gestation	maternal
derived	slower	habitual	created	faster

Add a prefix or a suffix to the word roots below.

Example: reaction

____fill	extern____	____pone	____sert
matern____	fast____	____flate	incis____
____stall	____ceed	heavi____	norm____

Lesson 7: Latin and Greek Plural Suffixes

Medical terminology uses a lot of Latin and Greek words. In English to make words plural we simply add an *s* or *es* as a suffix. (Remember, a suffix is a part of a word that is added to the end of the word root). Latin and Greek plural suffixes are a bit more complicated. Study the information below and become familiar with the Greek and Latin plural suffixes.

- Words ending with **a**, add an **e**. Vertebra becomes vertebrae.
- Words ending with **ax**, drop the **x** and add **ces**. Thorax becomes thoraces.
- Words ending with **en**, drop the **en** and add **ina**. Numen becomes numina.
- Words ending with **ex**, drop the **ex** and add **ices**. Index becomes indices.
- Words ending with **is**, drop the **is** and add **es**. Psychosis becomes psychoses.
- Words ending with **ix**, drop the **ix** and add **ces**. Matrix becomes matrices.
- Words ending with **ma**, add **ta**. Hematoma becomes hematomata.
- Words ending with **on**, drop **on** add an **a**. Phenomenon becomes phenomena.
- Words ending with **um**, drop **um** and add **a**. Sternum becomes sterna.
- Words ending with **us**, drop **us** and add **i**. Fungus becomes fungi.
- Words ending with **y**, drop **y** and add **ies**. Vasectomy becomes vasectomies.

Lesson 7 Activity 1: Create Plural Suffixes

Write the plurals of the words below.

cortex _____	cicatrix _____
stigma _____	bacterium _____
pleura _____	angioplasty _____
hypothesis _____	vasectomy _____
datum _____	stimulus _____
larva _____	vertex _____
bronchus _____	stemma _____
lumen _____	diagnosis _____

Lesson 8: Abbreviations

Abbreviations are used frequently in the medical field. With each chapter there will be several abbreviations for you to become familiar with. You will notice that some of the abbreviations come from Latin terms so they don't relate to the English spelling of the word.

<u>Abbreviation</u>	<u>Meaning</u>
a.c.	Ante cibum, (before meals)
BP	Blood pressure
DNR	Do not resuscitate
DX	Diagnosis
IV	Intravenous therapy. Giving liquid substances directly into a vein.
LOC	Level of consciousness, (alert, confused, etc.)
NKA/NKDA	No known allergies/ no known drug allergies
NOP	Nil per os, "nothing by mouth"
O ₂	Oxygen
p.c.	Post cibum, (after meals)
PO	Per os, Latin for "by mouth"
TPR	Temperature, pulse, respiration
V.S.	Vital signs: (pulse, temperature, blood pressure, respiration rate, pain)
Wt	Weight
PT	Physical therapy
RN	Registered nurse
RT	Radiologic technician
CDC	Center for Disease Control and Prevention
OSHA	U.S. Occupational Safety and Health Administration



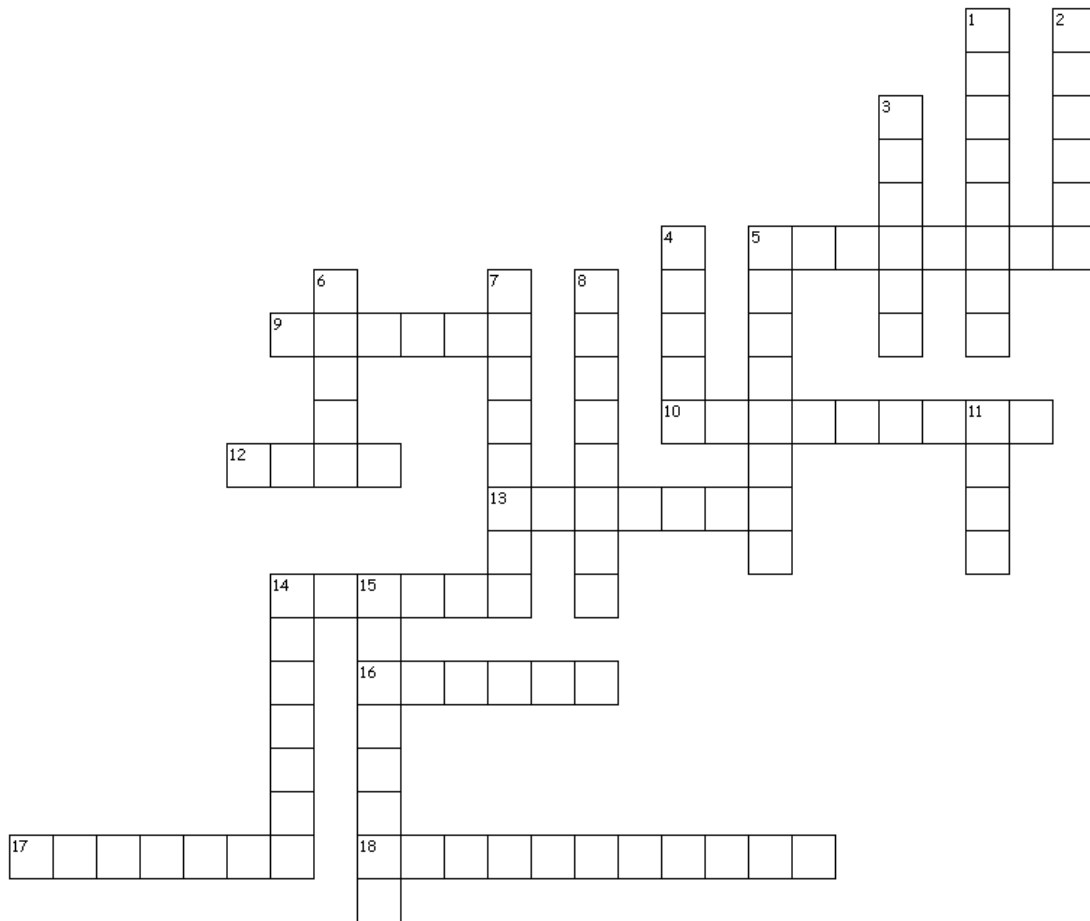
To aid in the memorization of this chapter's abbreviations, insert the DVD and click on Chapter 1, Lesson 8, Abbreviations. Watch and listen as the abbreviations and their meanings appear on the screen.

Lesson 1 Activity 1: Matching

Match the word with its meaning.

- | | |
|-----------------------|---|
| ___1. RN | a. Vital signs |
| ___2. RT | b. Physical therapy |
| ___3. CDC | c. After meals |
| ___4. OSHA | d. Intravenous therapy |
| ___5. a.c. | e. No known drug allergies |
| ___6. BP | f. By mouth |
| ___7. DNR | g. U.S. Occupational Safety and Health Administration |
| ___8. Dx | h. Before meals |
| ___9. PT | i. Center for Disease Control and Prevention |
| ___10. Wt | j. Oxygen |
| ___11. VS | k. Do not resuscitate |
| ___12. TPR | l. Weight |
| ___13. IV | m. Temperature, pulse, respiration |
| ___14. LOC | n. Nothing by mouth |
| ___15. NKA | o. Level of consciousness |
| ___16. NKDA | p. No known allergies |
| ___17. O ₂ | q. Registered nurse |
| ___18. p.c. | r. Diagnosis |
| ___19. PO | s. Blood pressure |
| ___20. NOP | t. Radiologic technician |

Lesson 9: Word Building Crossword



Across

- 5. a cut
- 9. vertical row
- 10. support
- 12. dark print
- 13. examine
- 14. make
- 16. allow
- 17. before
- 18. words

Down

- 1. cut out
- 2. dash
- 3. change
- 4. direct attention to
- 5. damaged
- 6. aeiou
- 7. to point out
- 8. response
- 11. basic unit of all organisms
- 14. join
- 15. roots, prefixes, suffixes

Chapter 2: Body Structure

Lessons

1. Body Structure Vocabulary
2. Identification Practice for Parts of the Body
3. Body Structure Commonly Used Medical Terms
4. Body Structure Abbreviations
5. Body Structure Crossword

Lesson 1: Body Structure Vocabulary



Using the glossary provided at the back of this book, define the words below.

Then, insert your DVD and from the menu click on Chapter 2, Lesson 1, Body Structure Vocabulary. Listen to the vocabulary words and repeat them after the instructor. To hear all the words in order click on the “Play All” button. If you prefer to hear the words individually, click on the word that you want to hear.

cartilage _____

cavity _____

composed of _____

comprehension _____

designate _____

destructive _____

detrimental _____

diagnose _____

directional _____

image _____

nucleus _____

organ _____

orient _____

previous _____

proceed _____

projection _____

quadrant _____

regions _____

reproductive system _____

separation _____

situated _____

spherical_____

structure_____

subdivided _____

substance_____

tissue _____

Lesson 1 Activity 1: Match the word with its meaning.

- | | |
|------------------------------|--|
| <u> L </u> 1. composed of | a. find and name a disease |
| ____ 2. structure | b. placed in a particular position |
| ____ 3. image | c. harmful |
| ____ 4. region | d. go forward |
| ____ 5. diagnose | e. arrangement of tissue or organs |
| ____ 6. detrimental | f. picture |
| ____ 7. cartilage | g. hollow space in the body |
| ____ 8. spherical | h. to name, to assign |
| ____ 9. previous | i. to understand |
| ____ 10. tissue | j. a division or part of the body |
| ____ 11. reproductive system | k. flexible tissue between bones |
| ____ 12. situated | l. made of |
| ____ 13. separation | m. for producing children |
| ____ 14. comprehension | n. before |
| ____ 15. cavity | o. structural material with special function |
| ____ 16. designate | p. shape like a ball |
| ____ 17. quadrant | q. a quarter of a circle |
| ____ 18. proceed | r. act of separating |

Lesson 2: Identification Practice for Parts of the Body

In the next five activities, you will need to use your medical terminology book or the internet as a reference to label the major organs of the body and the bones of the skeleton. You will also identify the directional terms for the body as well as the quadrants and regions of the abdomen.

Lesson 2 Activity1: Identify the Major Organs of the Body

Using your medical terminology book or the internet as a reference, label the major organs of the body.

anus

appendix

brain

esophogus

gall bladder

heart

intestines

kidneys

liver

lungs

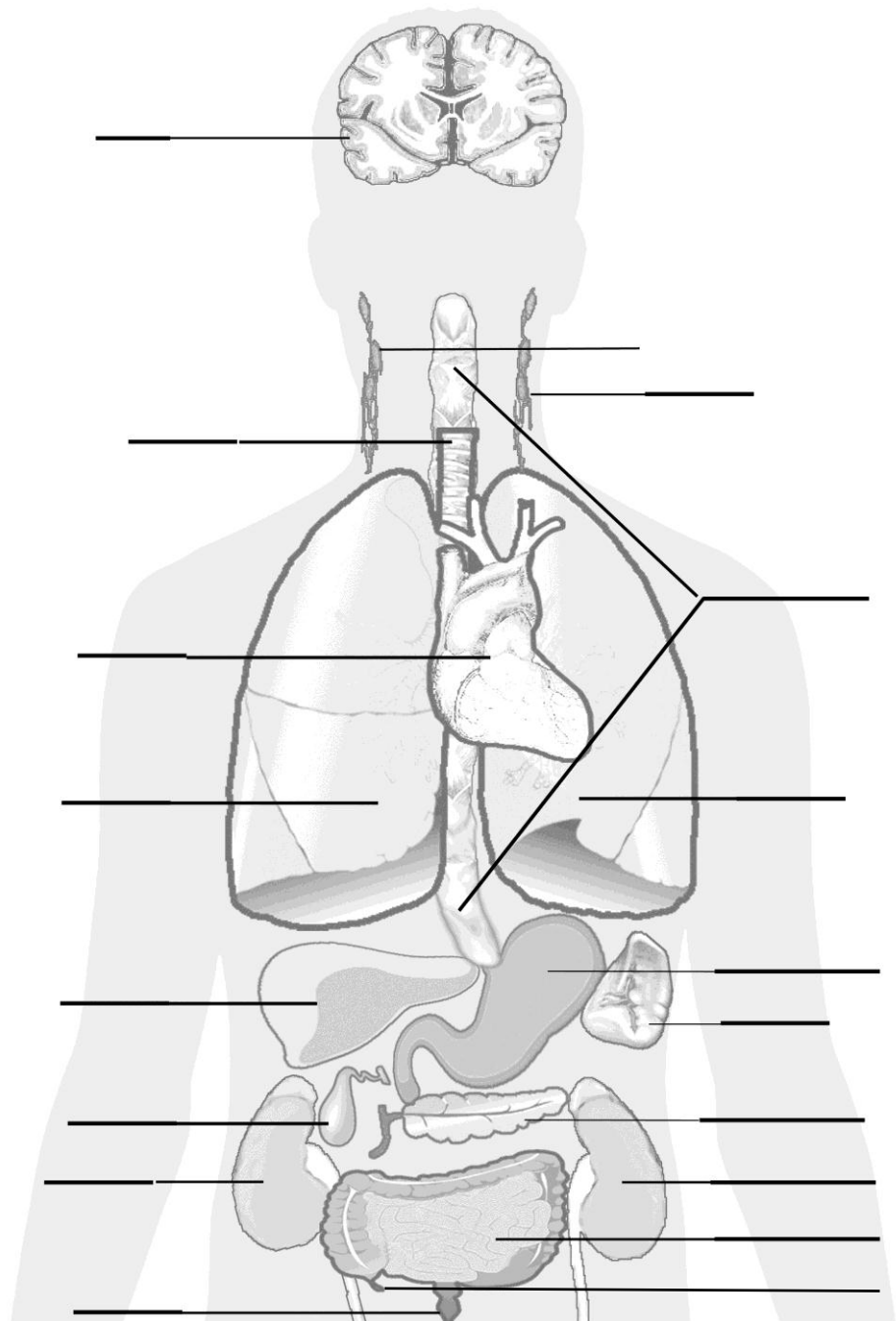
lymph nodes

pancreas

spleen

stomach

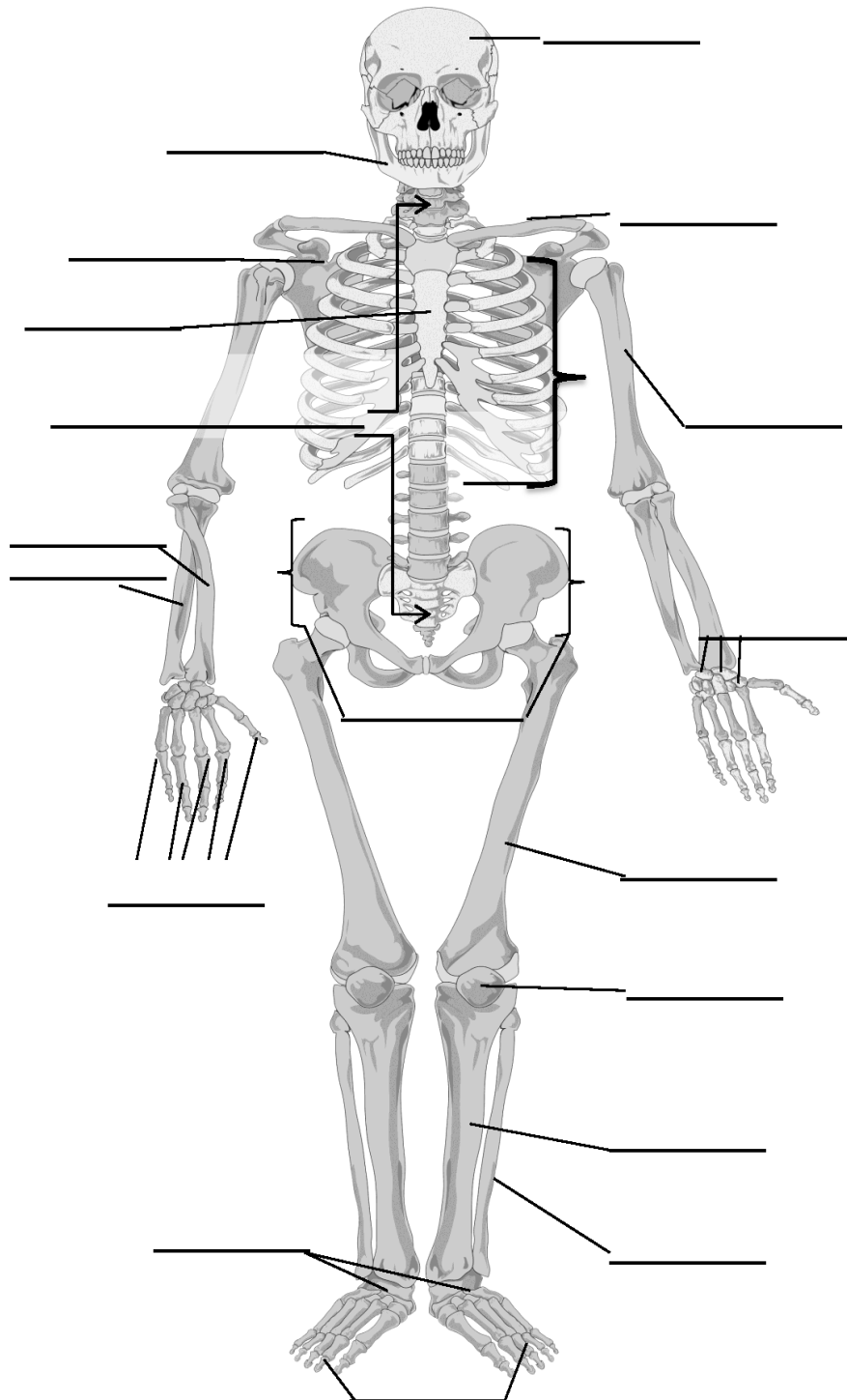
trachea



Lesson 2 Activity 2: Identify the Bones of the Skeleton

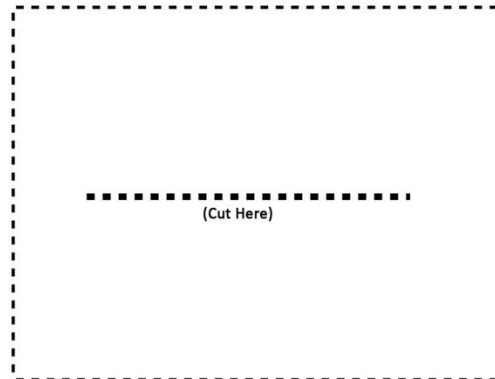
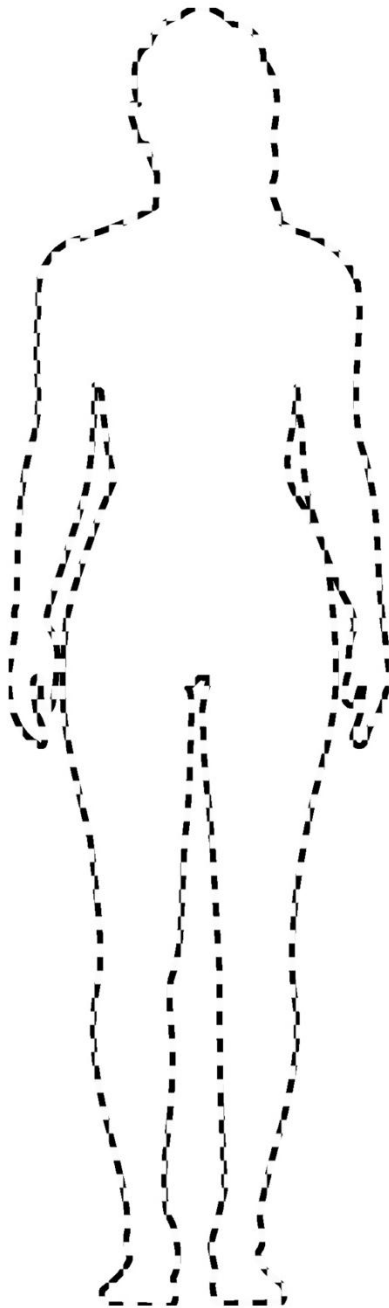
Using your medical terminology book or the Internet as a reference, label the major bones of the body.

mandible
scapula
sternum
ribs
pelvic girdle
radius
ulna
phalanges hand
phalanges foot
fibula
tarsals
patella
femur
carpals
spinal column
humerus
clavicle
cranium
tibia



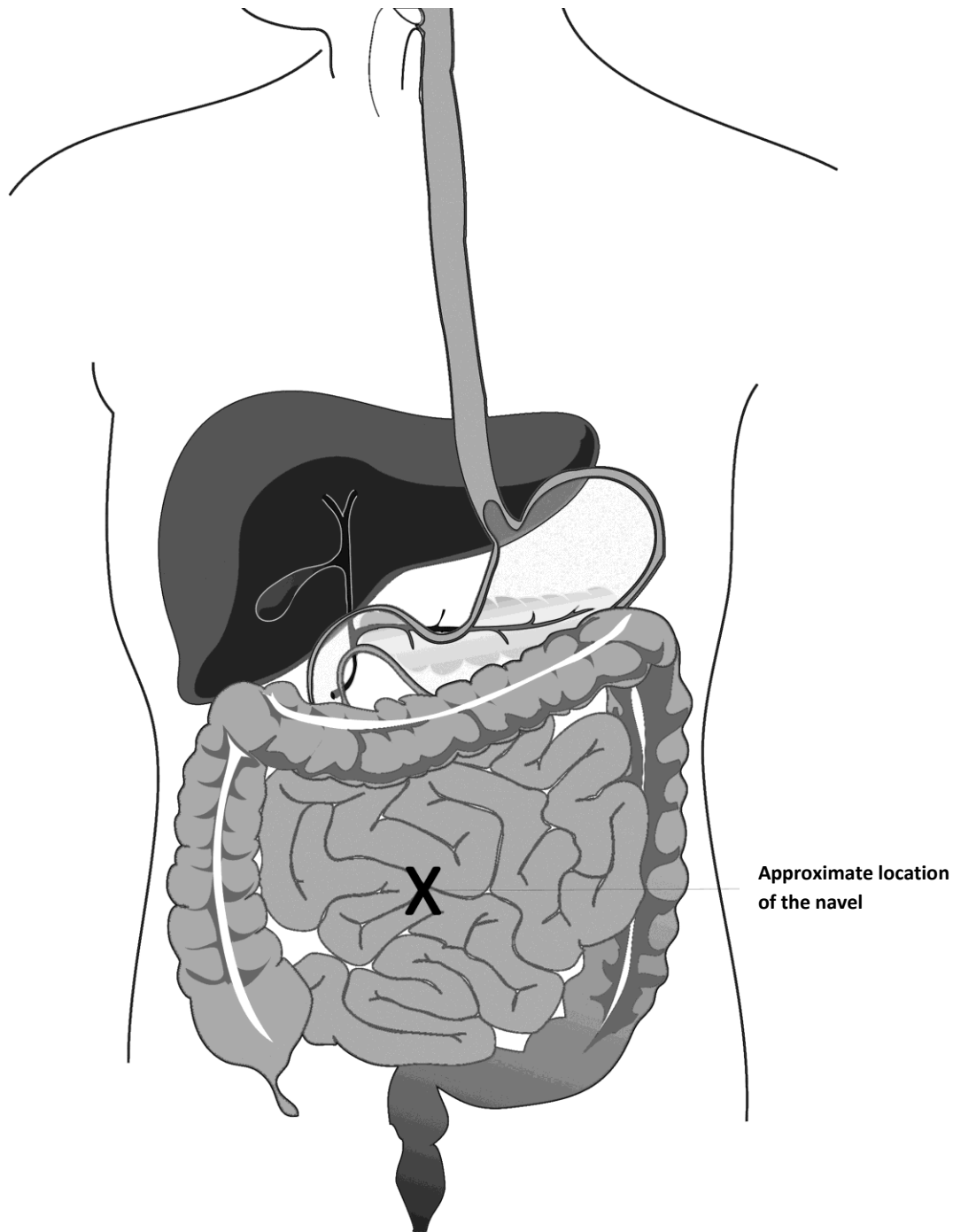
Lesson 2 Activity 3: Directional Terms

Cut out the outline of the human body below. Then cut out the square (A) that will act as a dividing plane to separate the superior and inferior halves of the body. Make a cut along the dotted line in square so you can insert the square over the body. Now label the body with these terms: anterior; posterior; inferior; superior; lateral; medial. Use your medical terminology book or the internet for a reference.



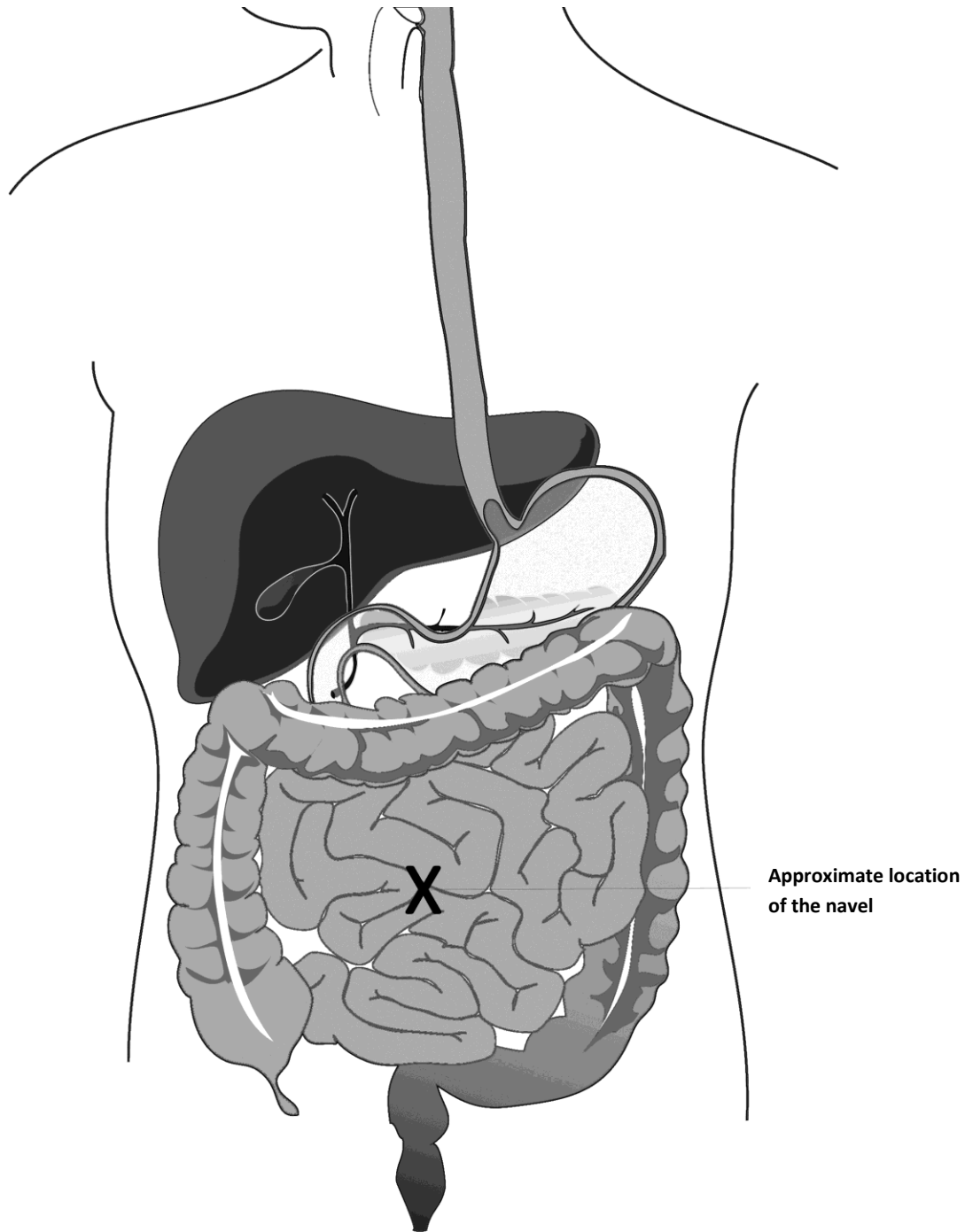
Lesson 2 Activity 4: Identify Quadrants of the Abdomen

Divide the abdomen into the four quadrants. Label at least one organ in each quadrant.



Lesson 2 Activity 5: Identify Regions of the Abdomen

Divide the abdomen into the nine regions. Label at least one organ in each region.



Lesson 3: Body Structure Commonly Used Medical Terms

In chapter 1 you learned about word elements. Below are some commonly used word roots, combining forms, suffixes and prefixes and their meaning. (Some elements are taken from Chapter 1).

Word root	Meaning	Combining form
anter	front	anter/o
cardi.....	heart.....	cardi/o
dermat or derm.....	skin	dermat/o...derm/o
gastr.....	stomach	gastr/o
poster.....	back.....	poster/o

Suffixes	Meaning
-ac; -al; -ar; -ary; -eal; -ic; -ile; -ior; -ous; -tic	There are many suffixes meaning <i>pertaining to or relating to</i> . These are the most common.
-logy	study of
-logist	specialist in the study of

Prefixes	Meaning
hypo-	under; below; not enough
post-.....	after; behind
pre-	before; in front of
super-.....	above; on

Rules for joining word elements

- A suffix that begins with a vowel is joined to the word root. **Example:** cardi/ac = cardiac
- A combining form is used to join a suffix that begins with a consonant.
Example: dermat/o/logy = dermatology
- A combining form joins a word root to another root to make a compound word, even if the second root begins with a vowel. Example: gastr/o/enter/itis = gastroenteritis

Lesson 3 Activity 1: Define and Pronounce Medical Terms



In the activity below, explain what the words mean through your understanding of the word elements. Then, insert your DVD and from the menu click on Chapter 2, Lesson 3, Activity 1, Define and Pronounce Medical Terms. Listen to the instructor pronounce the medical term and then say the word.

Example: gastr/ic, (GĀS-trĭk) Pertaining to the stomach.

cardi/ac _____
KĀR-dē-āk

anter/ior _____
ăn-TĒ-rē-or

dermat/o/logist _____
dĕr-mă-TŌL-ă-jĭst

hypo/gastr/ic _____
hĭ-pō-GĀS-trĭk

cardi/o/logy _____
kĀr-dē-Ōl-ō-jē

post/mortem (mortem means death) _____
pōst-MŌR-dēm

pre/natal (natal means birth) _____
prē-NĀ-tăl

hypo/derm/ic _____
hĭ-pō-DĒR-mĭc

poster/ior _____
pōs-TĒ-rē-or

cardi/o/logist _____
kar-dē-Ōl-ă-jĭst

pre/view _____
PRĒ-vū

super/ior _____
sū-PĒ-rē-or

Lesson 4: Body Structure Abbreviations

Doctors use different methods for taking pictures of the body to diagnose problems. The most common methods are described below. Abbreviations are commonly used for these procedures.

CT or Computed Tomography. CT scanning combines special x-ray equipment with sophisticated computers to produce multiple pictures of the inside of the body. These cross-sectional pictures of the area being studied can then be examined on a computer monitor, printed or transferred to a CD.

CXR or Chest X-Ray. The x-ray technique has been used for many years and is still the most common method of taking pictures of the inside of the body.

MRI or Magnetic Resonance Imaging. The MRI uses magnetic signals to create image "slices" of the human body. Like all imaging techniques, an MRI scan creates images based on differences between types of tissues. The MRI shows us the different tissues, and thus creates an image inside the body.

PET or Positron Emission Tomography. PET scans accurately make pictures of the cellular function of the human body. In a single PET scan your physician can examine your entire body. PET scanning provides a more complete picture, making it easier for your doctor to diagnose problems, determine the extent of disease, prescribe treatment, and track progress.

US or Ultrasonography, Ultrasound. Ultrasound uses high-frequency sound waves to bounce off tissue using special devices. The echoes are then changed into a picture called a sonogram. Ultrasound imaging, referred to as ultrasonography, allows physicians and patients to get an inside view of soft tissues and body cavities, without using invasive techniques. (No dyes injected, no cutting, no probes).

SPECT or Single-Photon Emission Computed Tomography. This is a nuclear medicine procedure in which a gamma camera rotates around the patient and takes pictures from many angles after the patient is injected with a radioactive dye. A computer is then used to form a tomographic (cross-sectional) image.

Abbreviations are also commonly used when referring to different parts or locations of the body.

abd is an abbreviation for the abdomen.

AP is an abbreviation for anteroposterior. *Anter*/o combining form meaning *front* is joined to root *posterior* meaning *back*. Joined together it means something starts in the front and goes to or exits at the back.

Lat is an abbreviation for *lateral*. Lateral means *on the side*.

LLQ is an abbreviation for *Left Lower Quadrant*.

LUQ is an abbreviation for *Left Upper Quadrant*.

PA is an abbreviation for *posteroanterior*. *Poster/o* combining form meaning *back* is joined to root *anterior* meaning *front*. Joined together it means something that starts in the back and goes to or exits at the front.

RLQ is an abbreviation for *Right Lower Quadrant*.

RUQ is an abbreviation for *Right Upper Quadrant*.

U&L or **U/L** is an abbreviation for *Upper and Lower*.

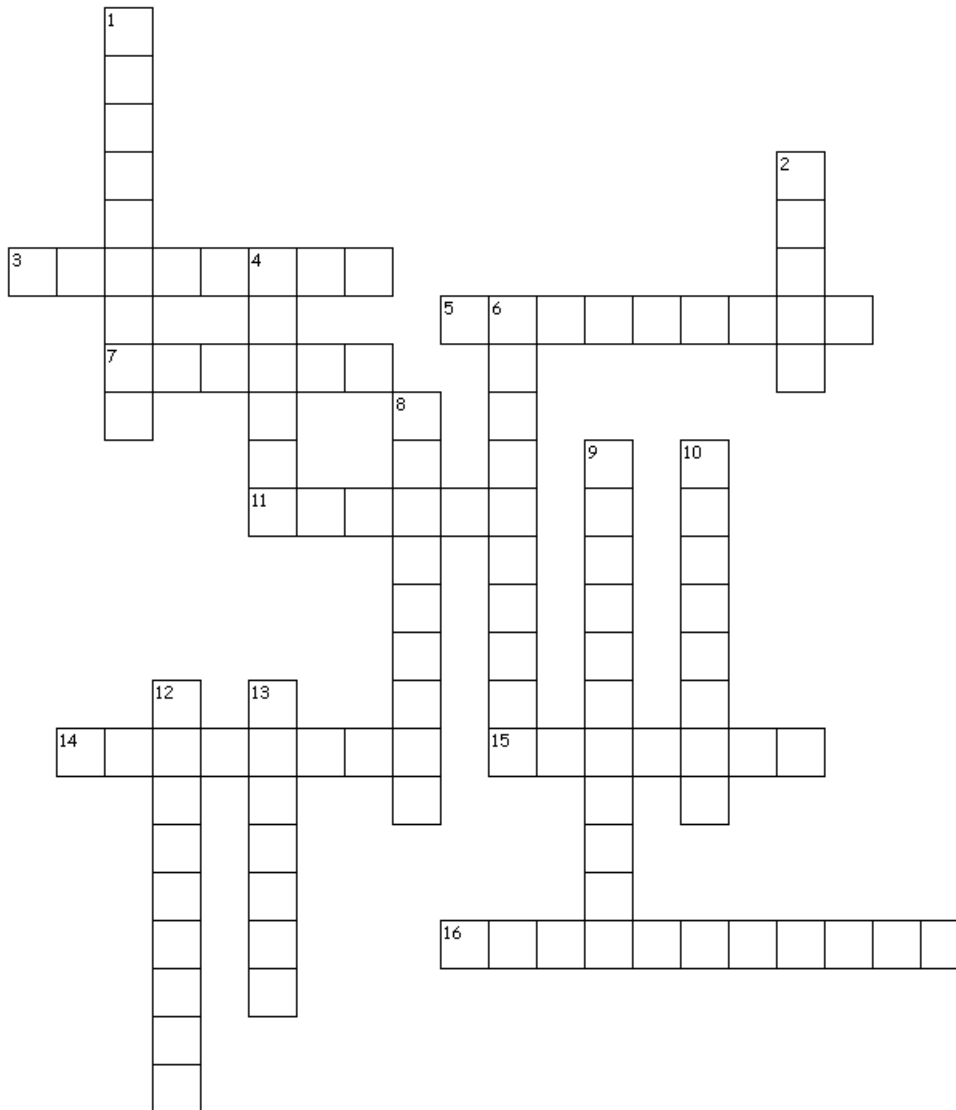


To aid in the memorization of this chapter's abbreviations, insert the DVD and click on Chapter 2, Lesson 4, Body Structure Abbreviations. Watch and listen as the abbreviations and their meanings appear on the screen

Lesson 4 Activity 1: Match the abbreviation with its meaning.

- | | |
|--------------|--------------------------------------|
| ___ 1. US | a. upper and lower |
| ___ 2. RUQ | b. magnetic resonance imaging |
| ___ 3. abd | c. left upper quadrant |
| ___ 4. CT | d. computed tomography scan |
| ___ 5. MRI | e. anteroposterior |
| ___ 6. Lat | f. chest x-ray |
| ___ 7. PA | g. ultrasound |
| ___ 8. LUQ | h. left lower quadrant |
| ___ 9. U/L | i. right upper quadrant |
| ___ 10. SPEC | j. right lower quadrant |
| ___ 11. AP | k. posteroanterior |
| ___ 12. RLQ | l. abdomen |
| ___ 13. CXR | m. positron emission tomography |
| ___ 14. PET | n. single-photon emission tomography |
| ___ 15. LLQ | o. lateral |

Lesson 5: Body Structure Crossword



Across

- 3. find illness
- 5. shaped like a ball
- 7. hollow space within the body
- 11. similar cells with specific function
- 14. a quarter of a circle
- 15. control center of cells
- 16. front, back, up, down

Down

- 1. physical matter, form
- 2. ex. heart, brain, lungs, skin
- 4. to position toward an object
- 6. sticks out
- 8. to name
- 9. damages
- 10. placed
- 12. flexible tissue around joints
- 13. go forward

Chapter 3: The Integumentary System

Lessons

1. Integumentary System Vocabulary
2. The Integumentary System
3. Integumentary System Word Elements and Medical Terms
4. Integumentary System Abbreviations
5. Dialog Practice
6. The Integumentary System Crossword

Lesson 1: Integumentary System Vocabulary



Using the glossary provided at the back of this book, define the words below.

Then, insert your DVD and from the menu click on Chapter 3, Lesson 1, The Integumentary System Vocabulary. Listen to the vocabulary words and repeat them after the instructor. To hear all the words in order click on the “Play All” button. If you prefer to hear the words individually, click on the word that you want to hear.

abnormal _____

adhesion _____

capillary _____

contagious _____

deficient _____

discharge _____

eruption _____

excessive _____

fungus _____

graft _____

implant _____

inadequate _____

inflammation _____

integumentary _____

lesion _____

malignant _____

palpable _____

procedure _____

prognosis _____

psoriasis _____

swelling_____

transmission _____

transplant _____

trauma_____

ulceration_____

vital _____

Lesson 1 Activity 1: Matching

Match the word with its meaning.

- | | |
|---------------------|-------------------------------------|
| ___1. implant | a. an abnormal enlargement |
| ___2. adhesion | b. injury caused by impact |
| ___3. integumentary | c. more than necessary |
| ___4. lesion | d. not complete; lacking |
| ___5. prognosis | e. small blood vessel |
| ___6. ulcer | f. cancerous |
| ___7. psoriasis | g. an injury, wound |
| ___8. swelling | h. probable outcome of a disease |
| ___9. excessive | i. pertaining to the skin |
| ___10. inflammation | j. skin disease causing red spots |
| ___11. trauma | k. redness, swelling, heat, pain |
| ___12. vital | l. joined together |
| ___13. discharge | m. able to be felt |
| ___14. palpable | n. not usual |
| ___15. contagious | o. get rid of; release |
| ___16. inadequate | p. transplant living tissue |
| ___17. capillary | q. to graft or insert into the body |
| ___18. malignant | r. necessary |
| ___19. abnormal | s. can spread from person to person |
| ___20. graft | t. a sore on a mucus membrane |

Lesson 2: The Integumentary System



Refer to the DVD menu and click on Chapter 3, Lesson 2, The Integumentary System. Read along and listen as the instructor reads the text.

The integumentary system is made up of the skin and its parts, (hair, nails, glands, etc.) It protects the body in many ways. It also gets rid of waste through perspiration, and helps to regulate the body temperature. It has many functions.

The skin is the largest organ of the body. It accounts for 16% of the total body weight. It basically consists of three layers: the epidermis; dermis; and subcutaneous layers.

The Epidermis

This is the top layer of skin made up of epithelial cells. It does not contain blood vessels. Its main function is protection, absorption of nutrients, and keeping the body stable. The epidermis is made up of four to five layers. The outermost layer is made up of dead cells, proteins and glycolipids.

The Dermis

The dermis is the middle layer of the skin. It is composed of loose connective tissue. The dermis layer provides a site for the endings of blood vessels and nerves. It also serves as the base for hair and glands.

The Subdermis (Subcutaneous Layer)

The subcutaneous layer is tissue directly underneath the dermis. It is composed mostly of connective and fatty tissue. Its main functions include insulation, storage of energy, and keeping the skin in place.

Functions of the Integumentary System

- Protect the body's organs
- Protect against invasion of infection
- Protect the body from dehydration
- Protect the body against sudden changes in temperature
- Help get rid of waste materials through perspiration
- Is sensitive to touch, pressure, pain, heat, and cold
- Protect the body from the sun
- Absorbs vitamin D through exposure to the sun

- Stores water, fat, glucose, and vitamin D
- Helps in temperature regulation

Lesson 2 Activity 1: Answer questions about the integumentary system.

1. What is the largest organ of the human body?
2. What are the 3 layers of the skin called?
3. How many layers does the epidermis contain?
4. What is the outermost layer of the skin composed of?
5. What is the dermis layer composed of?
6. Which layer of the skin does not have blood vessels?
7. In which layer of the skin do we find fatty tissue?
8. Which layer is the base for hair?
9. What vitamin does the skin absorb from the sun?
10. How does the skin help get rid of waste?
11. List 6 functions of the integumentary system.

1. _____

2. _____

3. _____

4. _____

5. _____

6. _____

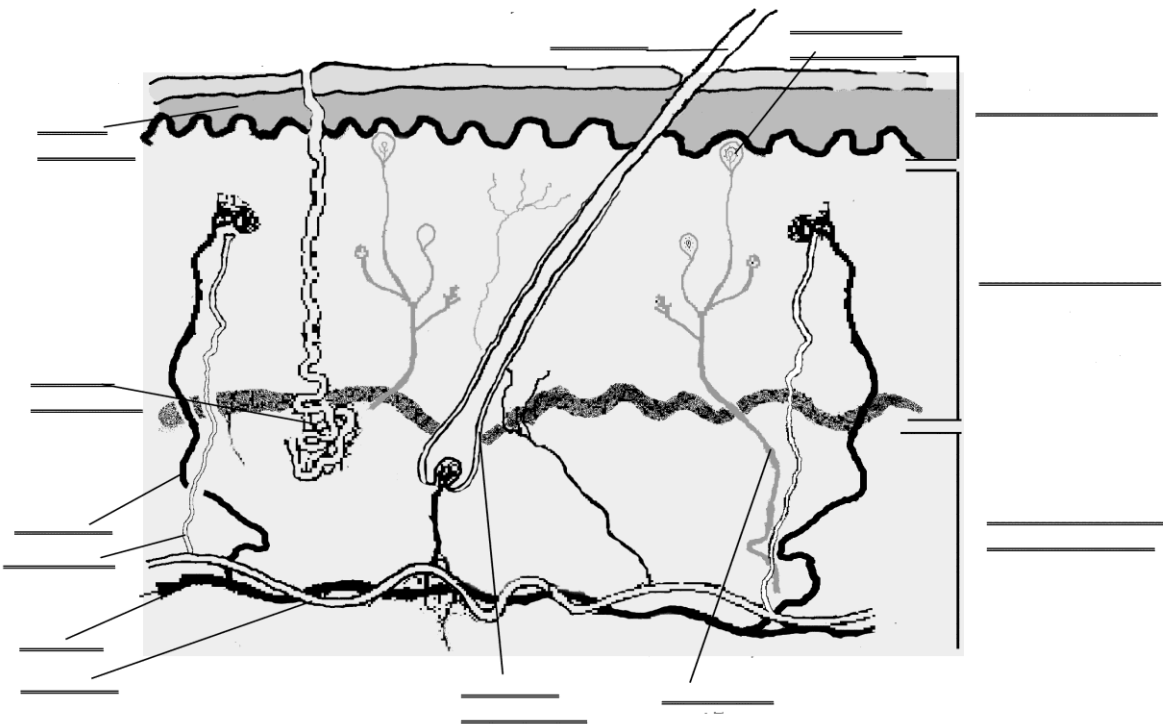
Lesson 2 Activity 2: Color and Label Diagram

Using your medical terminology book or the internet for a reference, color and label this diagram of the integumentary system.

1. sweat gland
2. artery
3. hair follicle
4. basal layer
5. hair shaft

6. nerve ending
7. nerve
8. venule
9. arteriole
10. epidermis

11. dermis
12. subcutaneous layer
13. vein



Lesson 3: Integumentary System Word Elements and Medical Terms

Word root	Meaning	Combining form
cutane	skin.....	cutane/o
cyt.....	cell.....	cyt/o
leuk	white	leuk/o

lip..... fat.....lip/o
 melan black.....melan/o
 necr..... death.....necr/o

Suffixes	Meaning
-itis	inflammation
-oma.....	tumor
-osis	abnormal condition
-pathy.....	disease
-plasty	surgical repair
-therapy	treatment

Prefixes	Meaning
auto-	self; own
epi-	above; on
sub-	under; below

Lesson 3 Activity 1: Define and Pronounce Medical Terms



In the activity below, explain what the words mean through your understanding of the word elements. Then, insert your DVD and from the menu click on Chapter 3, Lesson 3, Activity 1, Word Elements and Pronunciation. Listen to the instructor pronounce the medical term and then say the word.

Example: gastr/ic, (GĀS-trīk) Pertaining to the stomach.

leuk/o/cyte _____
 LOO-kō-sīt

sub/cutane/ous _____
 sŭb-kŭ-TĀ-nē-ŭs

dermat/itis _____
 dĕr-mă-TĪ-tīs

epi/derm/al _____
 ĕp-ĭ-DĒR-măl

gastr/itis _____
 găs-TRĪ-tīs

melan/oma _____
mĕl-ă-NŌ-mă

necr/osis _____
ně-KRŌ-sĭs

lip/o/cyte _____
LĪP-ō-sīt

abdomin/o/plasty _____
ăb-DŌM-ĭ-nō-plăs-tē

auto/therapy _____
AW-tō-thĕr-ă-pē

Lesson 4: Integumentary System Abbreviations

Memorize the abbreviations below.

BCC for basal cell carcinoma. This is a type of skin cancer that affects the basal layer or the epidermis. It usually occurs on areas of the skin exposed to the sun.

Bx for biopsy. A biopsy is a piece of tissue removed from the body for examination.

decub for decubitus. Decubitus is any position of a patient when lying in bed. A decubitus ulcer is an ulcer caused by lying in bed or a bedsore.

FH is an abbreviation for “Family history.”

ID is an abbreviation meaning intradermal. Intradermal means “In the skin.”

I&D is an abbreviation for “Incision and drainage.”

IM is an abbreviation for intramuscular. Intramuscular means “In a muscle.”

oint is an abbreviation for “Ointment.”

PE is an abbreviation for “Physical examination.”

WBC is an abbreviation for “White blood cells, or white blood count.”



To aid in the memorization of this chapter’s abbreviations, insert the DVD and click on Chapter 3, Lesson 4, Integumentary System Abbreviations. Watch and listen as the abbreviations and their meanings appear on the screen.

Lesson 4 Activity 1: Using Correct Abbreviations

Rewrite the conversation below using the correct abbreviations. Practice reading it aloud with a partner.

A. Did Mrs. Smith have her physical examination yet?

B. Yes she did. The doctor wants to do a biopsy immediately. She has intradermal and intramuscular discomfort. He also wants a white blood count test as soon as possible.

A. I noticed in her family history that there is a lot of basal cell carcinoma. What about Mr. Jones?

B. He seems to be developing a decubitus ulcer on his back. I applied some ointment but it doesn't seem to help his discomfort. I know that yesterday he had an incision and drainage of a carbuncle on his neck. Let's go check on him.

Lesson 5: Dialog Practice

Practice the dialog below with a partner. If no one is available, read both parts out loud several times.

Office staff: Hello Mr. White. What will the doctor be seeing you for today?

Mr. White: I'm in the sun a lot and want to have my skin checked. I have been a lifeguard at the beach for ten years and most of my coworkers have had problems with their skin.

Office Staff: Please fill out these forms and the doctor will see you shortly.

(Twenty minutes later)

Dr. Howard: Hello Mr. White. Your medical history form doesn't show any previous forms of skin cancer. That's amazing with your red hair and freckles and the amount of time you have spent in the sun.

Mr. White: I have always worn a lot of sun screen and when guarding I always wear a big hat. Most of the older guards have problems with cancer and I really want to avoid that.

Dr. Howard: Good, but you do have a number of risk factors: Blue eyes, male, fair complexion, freckles. Of course these factors don't mean that you will develop skin cancer, but you are at risk. Take off your shirt and let's have a look.

Mr. White: I have some small, scaly, crusty patches on my hands that don't go away. And there are a couple on my shoulders too.

Dr. Howard: Yes, these are called pre-cancers. I can burn those off today with liquid hydrogen. Do you have any moles that have changed color or that have gotten bigger?

Mr. White: No, not that I have noticed. I can't check my back.

Dr. Howard: Self inspection is really important. Get familiar with where your moles are and how big they are. Get your wife to check your back. If they get bigger or change in color come see me immediately.

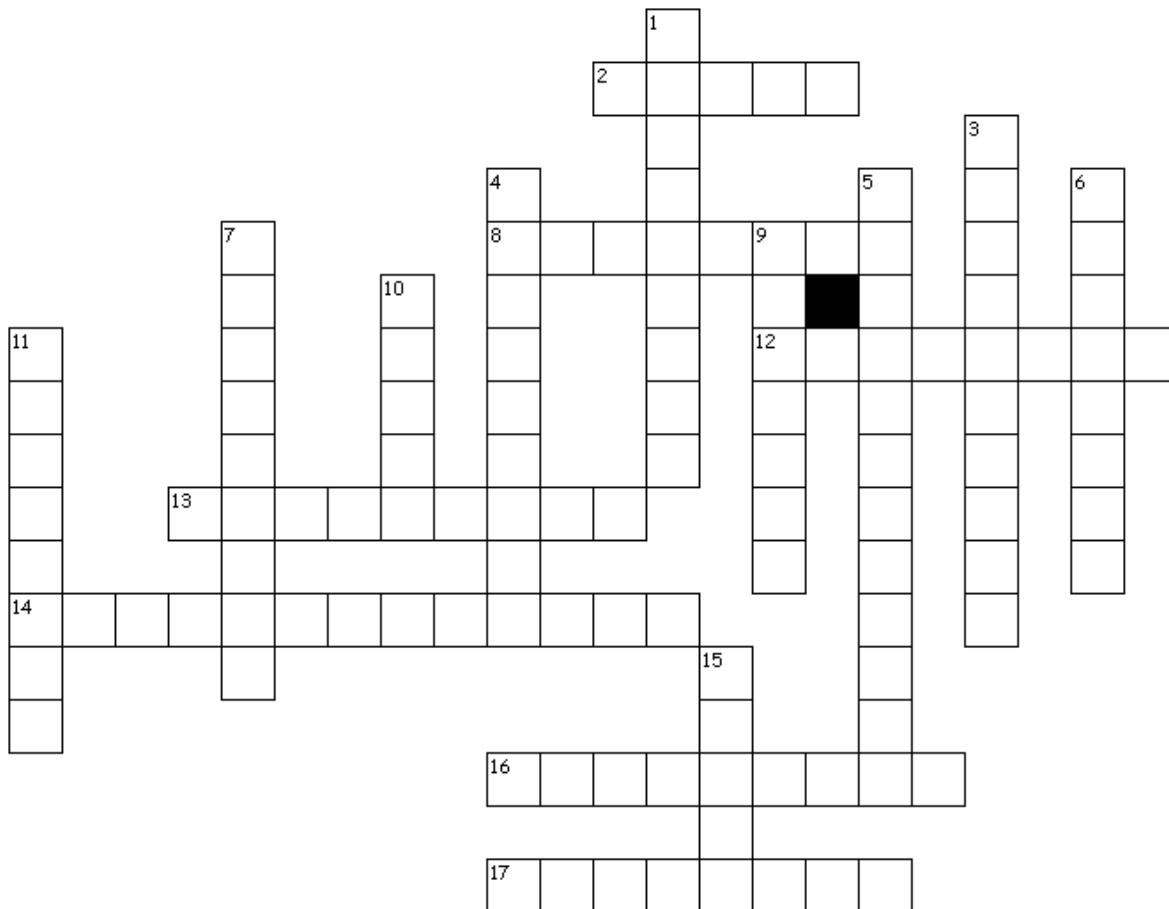
Mr. White: Are the scaly spots that you are going to burn off dangerous?

Dr. Howard: Not really. If they went untreated for a long time with more exposure to the sun they could develop into melanoma, but we have caught them very early. It is good that you came in. As long as you are a lifeguard you should come in and get checked twice a year.

Mr. White: Well, I plan on being a lifeguard for many years so you'll be seeing me.

Dr. Howard: Wear a T-shirt when you're in the sun and at least a 30 SPF sunscreen. Goodbye.

Lesson 6: The Integumentary System Crossword



Across

- 2. transplant living tissue
- 8. joined together
- 12. able to be felt
- 13. small blood vessel
- 14. of the skin
- 16. lacking something
- 17. not usual

Down

- 1. particular way of doing something
- 3. can spread from person to person
- 4. cancerous
- 5. redness, swelling, heat
- 6. abnormal enlargement
- 7. release
- 9. to insert into the body
- 10. necessary
- 11. break out violently
- 15. sore on a mucus membrane

Chapter 4: The Respiratory System

Lessons

1. The Respiratory System Vocabulary
2. The Respiratory System
3. Respiratory System Commonly Used Medical Terms
4. Respiratory System Abbreviations
5. Dialog Practice
6. The Respiratory System Crossword

Lesson 1: The Respiratory System Vocabulary



Using the glossary provided at the back of this book, define the words below.

Then, insert your DVD and from the menu click on Chapter 4, Lesson 1, The Respiratory System Vocabulary. Listen to the vocabulary words and repeat them after the instructor. To hear all the words in order click on the “Play All” button. If you prefer to hear the words individually, click on the word that you want to hear.

abscess _____

aspirate _____

catheter _____

cessation _____

chronic _____

dilate _____

exhale _____

inhale _____

membrane _____

mucus _____

nasal _____

obstruction _____

pathogen _____

polyp _____

prolapsed _____

puncture _____

pus _____

respiration _____

spasm _____

suture _____

thorax _____

ventilation _____

wheezing _____

Lesson 1 Activity 1: Practice Vocabulary

Using the vocabulary from this chapter, fill in the blanks with the correct word.

1. The exchange of gas in the lungs is called _____.
2. If a person isn't breathing there is no _____.
3. Her nose is swollen, she has a _____ infection.
4. A condition that lasts a long time is called _____.
5. The _____ is the chest area.
6. The clear or yellow liquid that seeps from a wound is called _____.
7. If a person can't get out of bed to use the bathroom he or she will usually have a _____ inserted.
8. A person having a seizure usually has muscle _____.
9. A blood clot can cause an _____ in a vein.
10. The _____ of blood flow to a limb can cause permanent damage.
11. Most asthma patients experience _____.
12. Certain drugs make the patient's pupils get larger or _____.
13. If you _____ smoke during a fire you can damage your lungs.
14. The breath we _____ is about 16% oxygen.
15. Patients who vomit while unconscious often _____ solid matter.
16. She has an _____ on her leg where she was stung by a stingray.

17. The _____ on the inside of the stomach is susceptible to ulcers.
18. Stepping on a nail will _____ the bottom of your foot.
19. Sometimes, due to a difficult labor or delivery, the uterus will _____ or fall out of place.
20. The cut on his arm required 10 _____.
21. An airborne _____ can easily spread and become an epidemic.
22. A colonoscopy looks for _____ on the wall of the colon.

Lesson 2: The Respiratory System

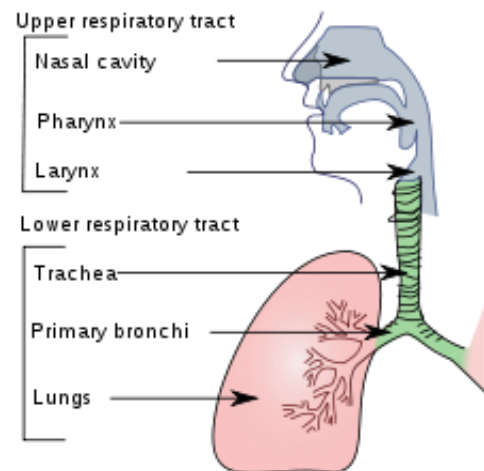


Refer to the DVD menu and click on Chapter 4, Lesson 2, The Respiratory System. Read along and listen as the instructor reads the text.

All the cells in your body require oxygen. Your body gets oxygen from breathing. You breathe in oxygen which your blood circulates to all parts of the body.

The diaphragm and other muscles in the chest and abdomen help the breathing process. These muscles literally change the space and pressure inside your body to accommodate breathing. When your diaphragm pulls down, it not only leaves more space for the lungs to expand, but also lowers the internal air pressure. Outside, where the air pressure is greater, you suck in air and inhale. The air then expands your lungs like a pair of balloons. When the diaphragm relaxes, the cavity inside the body gets smaller again. Your muscles squeeze your rib cage and the lungs begin to collapse as the air is pushed up and out of the body when exhaling.

We breathe in through the nose. When we do, we inhale air and it passes through the nasal passages where the air is filtered, heated, moistened and enters the back of the throat. The esophagus is located at the back of the throat and the windpipe or trachea is at the front. When we eat, a flap, the epiglottis, flops down to cover the trachea so that food doesn't go down it. The air flows down through the trachea, past the voice box, to where the lowermost ribs meet the center of the chest. There,



the trachea divides into two tubes called *bronchi* which lead to the two lungs. Inside each of the lungs, the bronchi branch into even smaller tubes much like the branches of a tree. At the end of these tubes there are about 300 million tiny sacs called *alveoli*. The heart pumps blood through the body. It pumps deoxygenated blood carrying carbon dioxide into the lungs. As it pumps blood through the lungs, a gas exchange takes place in the alveoli, exchanging newly breathed in oxygen for carbon dioxide that the body has produced. The oxygenated blood then travels throughout the body supplying the needed oxygen to the body's cells, and the carbon dioxide is exhaled out of the body.

Lesson 2 Activity 1: Respiratory System Questions

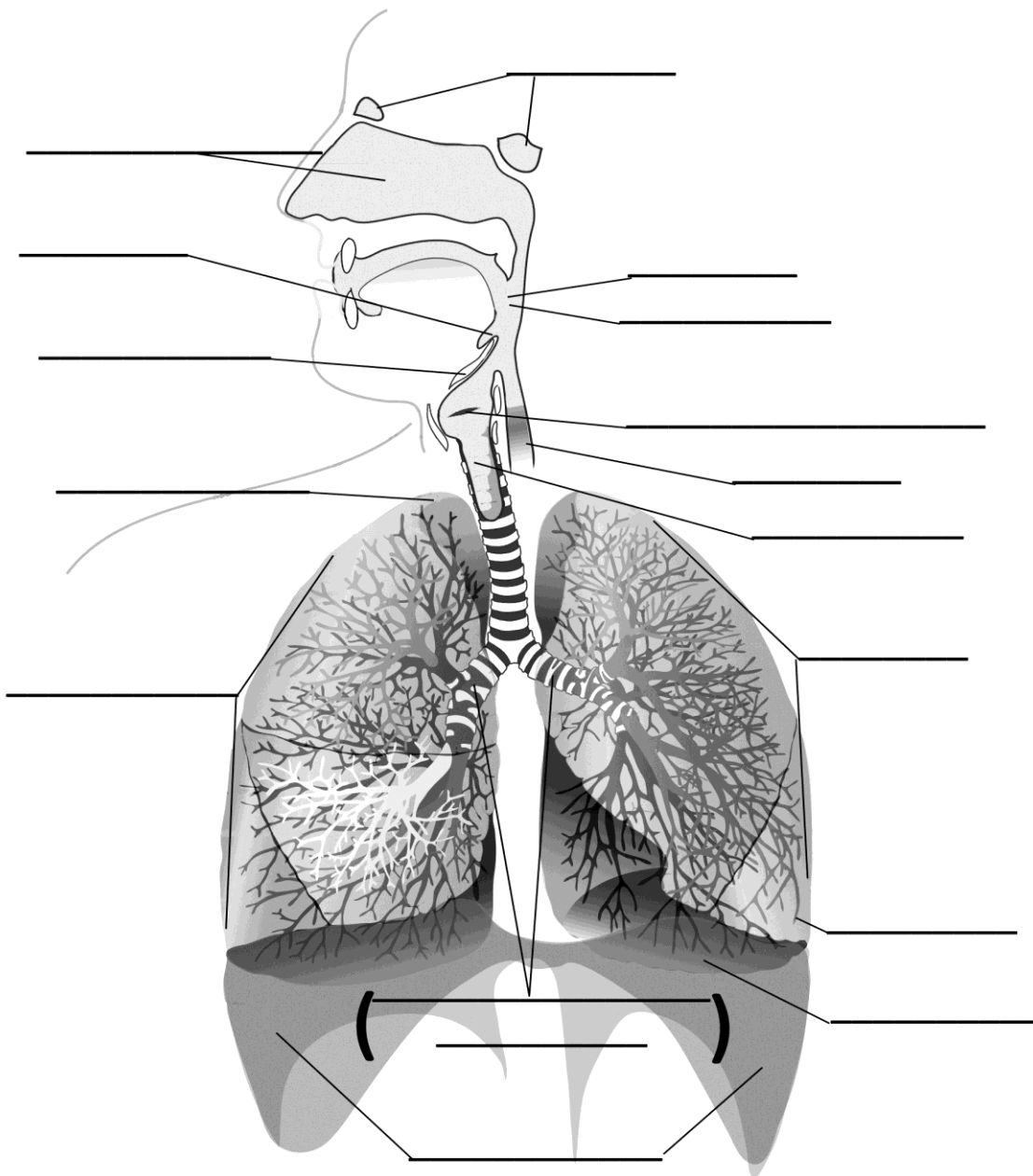
Answer the questions about the respiratory system.

1. What do all the cells of the body require?
2. When the diaphragm pulls down are you inhaling or exhaling?
3. What three things happen to the air as it goes through the nasal passage?
 - 1.
 - 2.
 - 3.
4. What is another name for the windpipe?
5. What covers the trachea when we eat so food doesn't get into the lungs?
6. The trachea divides into two tubes. What are they called?
7. About how many alveoli are in the lungs?
8. What does deoxygenated blood carry into the lungs?
9. What transfer takes place in the alveoli?
10. What happens to the carbon dioxide?

Lesson 2 Activity 2: Label Respiratory System

Directions: Using your medical terminology book or the internet as a reference, label the picture below with the correct respiratory system terms.

left lung	right lung	pharynx
base of lung	diaphragm	glottis and vocal chords
bronchiole	trachea	apex of lung
right bronchus	epiglottis	larynx
left bronchus	tonsils	esophagus
sinuses	nasal cavity	



Lesson 3: Respiratory System Commonly Used Medical Terms

Word root	Meaning	Combining form
bronch	bronchi	bronch/o
bronchi	bronchi	bronchi/o
my.....	muscle.....	my/o
nas.....	nose	nas/o
pneum.....	air; lung	pneum/o
pneumon.....	air; lung	pneumon/o
rhin	nose	rhin/o
trache.....	trachea.....	trache/o

Suffixes	Meaning
-algia.....	pain
-dynia	pain
-oxia	oxygen
-plegia	paralysis
-pnea	breathing
-thorax.....	chest

Prefixes

a-	without
an-	without
dys-	bad; painful; difficult
peri-	around

Lesson 3 Activity 1: Define and Pronounce Medical Terms



In the activity below, explain what the words mean through your understanding of the word elements. Then, insert your DVD and from the menu click on Chapter 4, Lesson 3, Activity 1, Word Elements and Pronunciation. Listen to the instructor pronounce the medical term and then say the word.

dys/pnea _____
 dīsp-NĒ-ă
 cardi/o/plegia _____
 căr-dē-ō-PLĒ-jē-ă
 rhin/itis _____
 rī-NĪ-tīs

a/pnea _____
 ĀP-nē-ă
 nas/al _____
 NĀ-zl
 bronch/itis _____
 brōng-KĪ-tīs
 my/o/pathy _____
 mī-ŌP-ă-thē
 hypo/xia _____
 hī-PŌKS-ē-ă
 rhin/o/plasty _____
 RĪ-nō-plās-tē
 my/algia _____
 mī-ĀL-jē-ă
 trache/itis _____
 trā-kē-Ī-tīs

Lesson 4: Respiratory System Abbreviations

Memorize the abbreviations below.

CF Cystic Fibrosis. CF is an inherited disease which causes severe congestion in the lungs and digestive systems.

CO₂ Carbon Dioxide. The body produces CO₂ which is carried in the blood to the lungs and then is exhaled through the mouth or nose.

COLD Chronic Obstructive Lung Disease. The two main types of COLD are bronchitis and emphysema.

CPR Cardiopulmonary Resuscitation. CPR is a combination of rescue breathing and chest compressions to supply blood flow to the heart and brain until normal heart function is restored.

IRDS Infant Respiratory Distress Syndrome. IRDS is a breathing disorder present at birth. Usually it affects premature infants.

PFT Pulmonary Function Test. PFT is any of several tests to evaluate the condition of the respiratory system.

RD Respiratory Disease.

SIDS Sudden Infant Death Syndrome. SIDS is the unexpected, sudden death of an infant under the age of one year in which the autopsy does not show an explainable cause of death.

SOB Shortness Of Breath.

TB Tuberculosis. TB is an infectious disease that produces lesions in the lungs.

URI Upper Respiratory Infection. URI is infection of the nose, sinuses, pharynx, or larynx.



To aid in the memorization of this chapter's abbreviations, insert the DVD and click on Chapter 4, Lesson 4, Respiratory System Abbreviations. Watch and listen as the abbreviations and their meanings appear on the screen.

Lesson 4 Activity 1: Abbreviations

Write the abbreviation that corresponds to the clue.

1. _____ Rescue breathing and chest compressions.
2. _____ The autopsy can't explain why the infant died.
3. _____ A test to determine the condition of the respiratory system.
4. _____ Shortness of breath.
5. _____ Inherited disease that causes congestion in the lungs and digestive system.
6. _____ Breathing disorder present at birth.
7. _____ Infectious lung disease that produces lesions in the lungs.
8. _____ Infection of the nose, sinuses, pharynx, or larynx.
9. _____ Carbon dioxide.
10. _____ Respiratory disease.
11. _____ Bronchitis and emphysema.

Lesson 5: Dialog Practice

Practice the dialogs below with a partner. If no one is available, read both parts out loud several times.

Dialog 1

Office Staff: The patient in room 4 is waiting to see you Dr. Diaz. She says that she has been coughing for over a month and it is really bad when she is trying to sleep.

Dr. Diaz: Does she have SOB and chest tightness?

Office Staff: Yes, and I can hear her wheezing when she breathes.

Dr. Diaz: Ok. We'll run a PFT and see what we can find. Does she have a history of asthma in her family?

Office Staff: Yes, her grandfather suffered from asthma and so does one of her aunts. She says she has a lot of difficulty breathing when she jogs.

Dr. Diaz: Ok. Take her vital signs and I'll see her next.

What disease do you think she has?

Dialog 2

Dr. Diaz: Mr. Jones, the patient sitting near the door of the waiting room, is coughing deeply and looks pale. Move him into Room C immediately where he will be isolated from the other patients. Put on a mask and have him wear one. He could be very contagious.

Office Staff: Ok. (5 minutes later) I took his vitals. His temperature is 102°, his BP is 150/100, and his respirations are 30 pm.

Dr. Diaz: Thanks, I'll go see him now.

Hello Mr. Jones. How long have you had that cough?

Mr. Jones: Well, it started about 3 or 4 weeks ago and I can't get rid of it. Lately there has been a little blood when I spit.

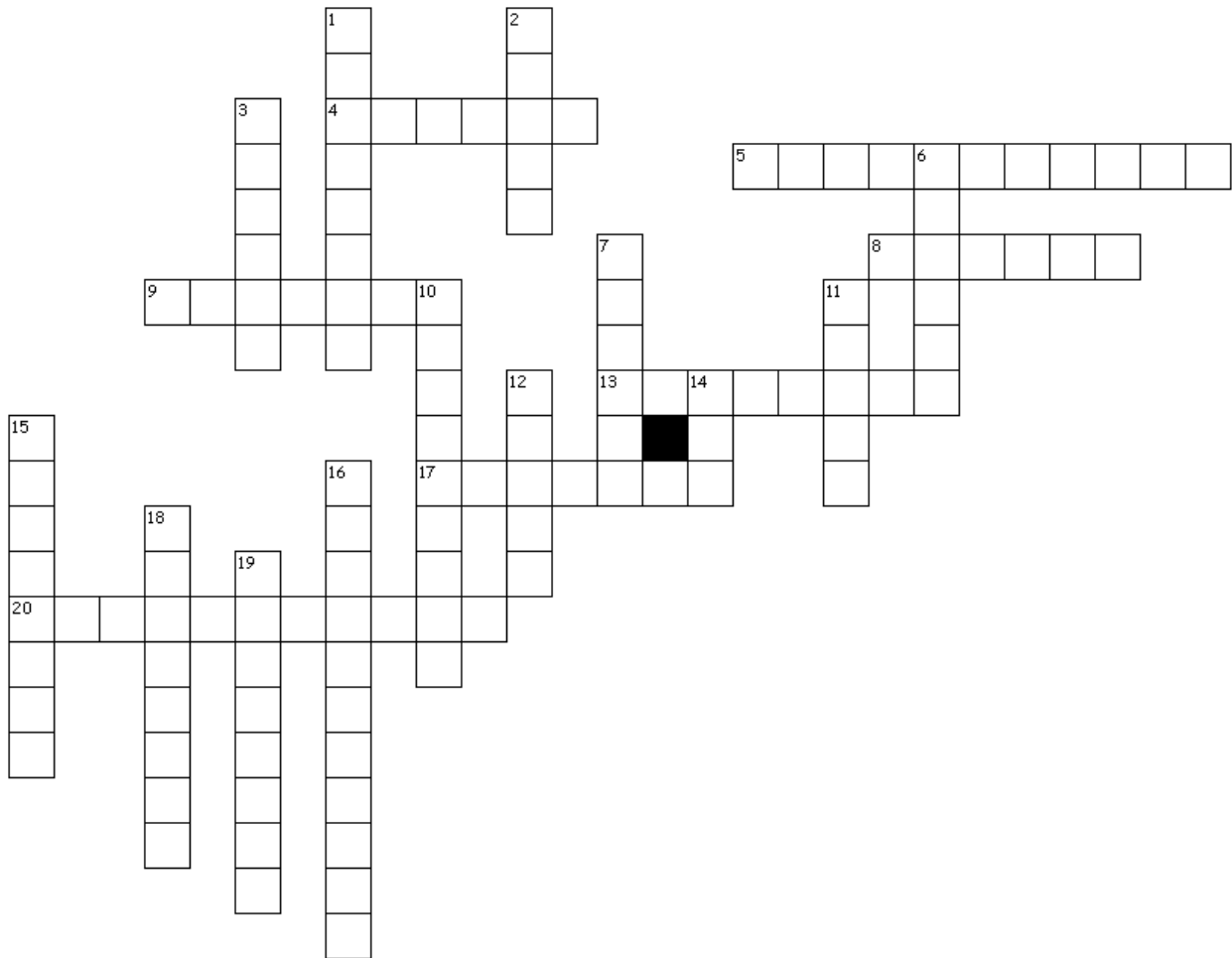
Dr. Diaz: I see. Have you lost any weight?

Mr. Jones: Yes. I've lost about 10-12 pounds the last couple of months. I have no appetite and I get the chills at night. That and the cough make it hard to sleep. I feel tired all the time.

Dr. Diaz: Ok. We're going to run some tests. Please be sure to keep your mask on and cough into your elbow.

What disease might Mr. Jones have?

Lesson 6: The Respiratory System Crossword



Across

- 4. breathe out
- 5. breathing
- 8. chest
- 9. constant, continuing a long time
- 13. to inhale fluid or matter
- 17. a localized collection of pus
- 20. blockage

Down

- 1. difficulty breathing, whistling
- 2. a growth on an organ
- 3. sewing a wound closed
- 6. breathe in
- 7. make wide or larger
- 10. stop or end
- 11. uncontrollable muscle movement
- 12. of the nose
- 14. liquid from a wound or infection
- 15. anything that causes disease
- 16. exchange of gases in the lungs
- 18. hollow, flexible tube
- 19. hole

Chapter 5: The Cardiovascular and Lymphatic Systems

Lessons

1. The Cardiovascular and Lymphatic Systems Vocabulary
2. The Cardiovascular and Lymphatic Systems
3. Cardiovascular and Lymphatic Systems Word Elements and Medical Terms
4. Cardiovascular and Lymphatic Systems Abbreviations
5. Dialog Practice
6. The Cardiovascular and Lymphatic Systems Crossword

Lesson 1: The Cardiovascular and Lymphatic Systems Vocabulary



Using the glossary provided at the back of this book, define the words below. Then, insert your DVD and from the menu click on Chapter 5, Lesson 1, The Cardiovascular and Lymphatic Systems Vocabulary. Listen to the vocabulary words and repeat them after the instructor. To hear all the words in order click on the “Play All” button. If you prefer to hear the words individually, click on the word that you want to hear.

accumulation _____

achieve _____

adequate _____

benign _____

blood clot _____

bypass _____

chamber _____

congenital _____

contraction _____

cuspid _____

degeneration _____

elasticity _____

enlargement _____

groin _____

hardening _____

interruption _____

lobe _____

murmur _____

narrowing _____

node _____

plaque _____

pump _____

rupture _____

torso _____

tumor _____

valve _____

vessel _____

Lesson 1 Activity 1: Matching

Match the word with its meaning.

- | | |
|-----------------------|---|
| ____ 1. groin | a. abnormal sound of heart |
| ____ 2. enlargement | b. flexibility |
| ____ 3. node | c. making less wide |
| ____ 4. murmur | d. thickening of blood causing blockage |
| ____ 5. narrowing | e. tube in which body fluid is circulated |
| ____ 6. bypass | f. tearing of tissue |
| ____ 7. achieve | g. fatty material on the arterial wall |
| ____ 8. pump | h. fold in cardiac valve |
| ____ 9. adequate | i. dating from birth |
| ____ 10. benign | j. pathological swelling |
| ____ 11. accumulation | k. to avoid |
| ____ 12. congenital | l. increase in growth |
| ____ 13. plaque | m. to get; accomplish |
| ____ 14. cusp | n. muscle becomes shorter and tighter |
| ____ 15. enlargement | o. get worse |
| ____ 16. tumor | p. trunk of body |
| ____ 17. blood clot | q. between thigh and abdomen |
| ____ 18. valve | r. closes passage temporarily |
| ____ 19. degeneration | s. sufficient |
| ____ 20. torso | t. not malignant |
| ____ 21. rupture | u. heart |
| ____ 22. vessel | v. abnormal growth |
| ____ 23. contraction | w. made bigger |
| ____ 24. elasticity | x. made bigger |

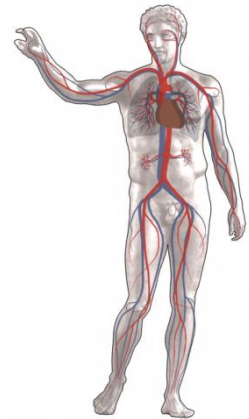
Lesson 2: The Cardiovascular and Lymphatic Systems



Refer to the DVD menu and click on Chapter 5, Lesson 2, The Cardiovascular and Lymphatic Systems. Read along and listen as the instructor reads the text.

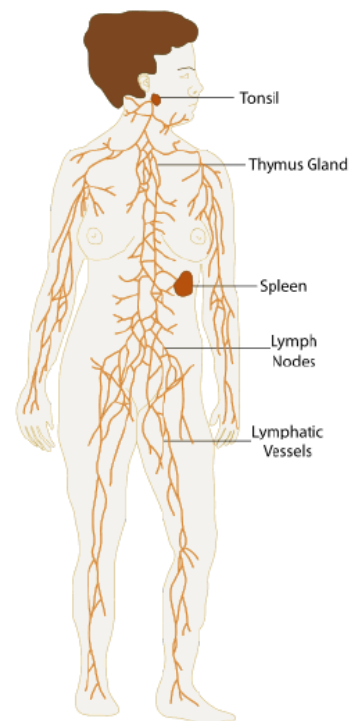
The main parts of the human **cardiovascular system** are the heart and the blood vessels. It includes: the pulmonary circulation, a "loop" through the lungs where blood is oxygenated; and the systemic circulation; a "loop" through the rest of the body to provide oxygenated blood. An average adult body contains five to six quarts (roughly 4.7 to 5.7 liters) of blood. Also, the digestive system works with the circulatory system to provide the nutrients the system needs to keep the heart pumping.

Pulmonary circulation is the portion of the cardiovascular system which transports deoxygenated blood away from the heart to the lungs, and returns oxygenated blood back to the heart. Systemic circulation is the portion of the cardiovascular system which transports oxygenated blood away from the heart, to the rest of the body, and returns oxygen-depleted blood back to the heart. Systemic circulation is, distance-wise, much longer than pulmonary circulation, transporting blood to every part of the body. So, the heart pumps oxygenated blood to the body and deoxygenated blood to the lungs through a complex network of veins, arteries and capillaries.



The **lymphatic system** does not have a pump; it depends upon the heart to move its liquid. The lymphatic system is part of the immune system, made up of a network of tubes that carry a clear fluid called *lymph*.

It also includes the lymphoid tissue and lymphatic vessels through which the lymph travels in a one-way system in which lymph flows only toward the heart. The lymph nodes act as filters that contain many white blood cells that destroy bacteria and viruses in the lymph. The study of lymphatic drainage of various organs is important in diagnosis, prognosis, and treatment of cancer. The lymphatic system, because of its being close to many tissues of the body, is responsible for carrying cancerous cells between the various parts of the body in a process called metastasis. The lymph nodes can trap the cancer cells. If they are not successful in destroying the cancer cells the nodes may become sites of secondary tumors. Diseases and other problems of the lymphatic system can cause swelling and other symptoms. Problems with the system can impair the body's ability to fight infections.



Lesson 2 Activity 1: Cardiovascular and Lymphatic Systems

Answer the questions below about the cardiovascular and lymphatic systems.

1. What are the main parts of the cardiovascular system?

2. How much blood does the average adult body contain?

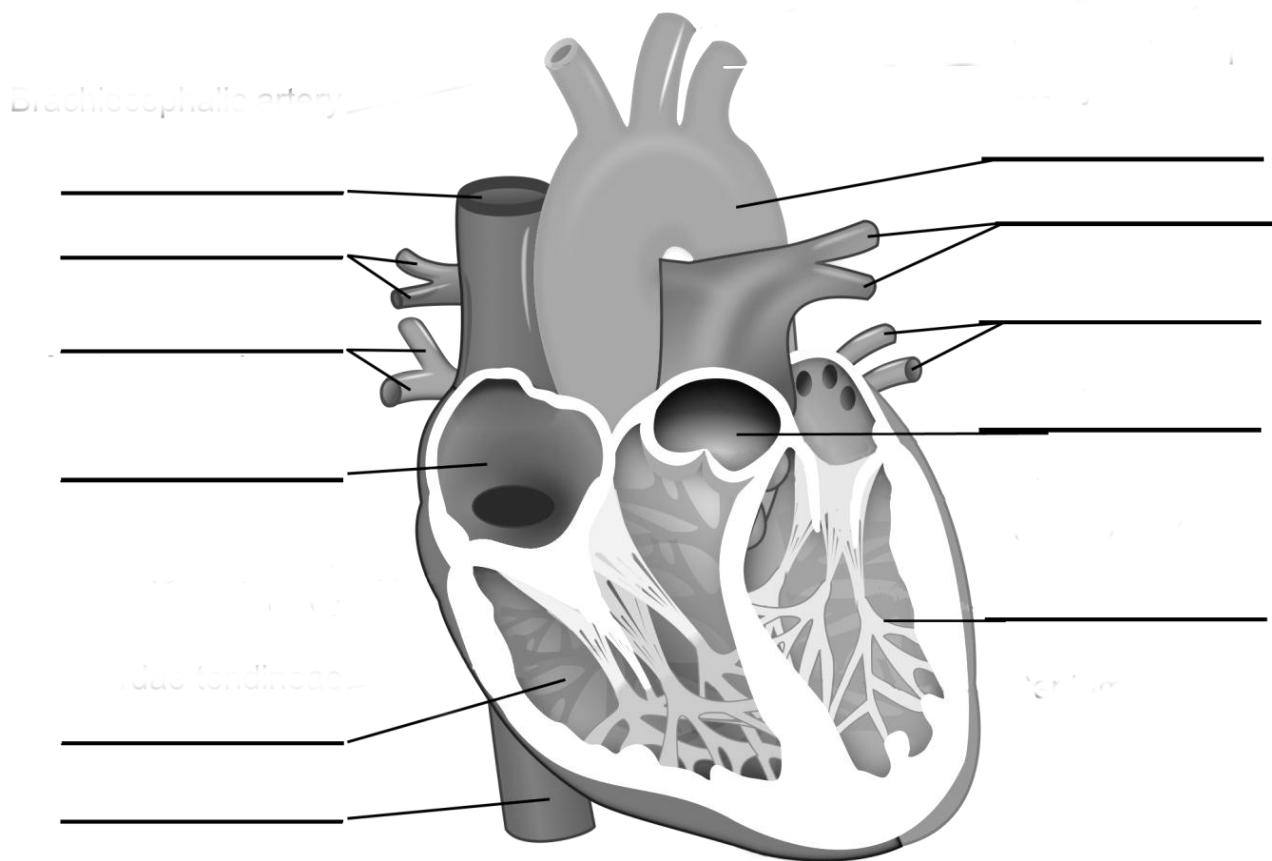
3. What does the pulmonary circulation portion of the cardiovascular system do?

4. What does the systemic circulation portion of the cardiovascular system do?
5. What moves the lymphatic system's liquid through the body?
6. What do lymph nodes do?
7. What is *metastasis*?
8. What happens if cancer cells aren't destroyed in the lymph nodes?

Lesson 2 Activity 2: Identify Parts of the Cardiovascular System

Using your medical terminology book or the internet as a reference, fill in the blanks with the correct cardiovascular term.

- right ventricle
- left atrium
- aorta
- inferior vena cava
- right pulmonary vein
- right pulmonary artery
- superior vena cava
- right atrium
- left pulmonary artery
- left pulmonary vein
- left ventricle



Lesson 3: Cardiovascular and Lymphatic Systems Word Elements and Medical Terms

Word root	Meaning	Combining form
angi	vessel.....	angi/o
arteri	artery	arteri/o
hem	blood	hem/o
lymph	lymph	lymph/o
phleb	vein	phleb/o
ven.....	vein	ven/o
thromb.....	blood clot.....	thromb/o

Suffixes	Meaning
-lysis	destruction; separation; loosening
-phobia	fear of
-rrhaphy.....	suture
-tomy	incision
-us.....	structure; condition
-um.....	structure; thing

Prefixes	Meaning
tachy-	rapid
brady-	slow
endo-	in; within

Lesson 3 Activity 1: Define and Pronounce Medical Terms



In the activity below explain what the words mean through your understanding of the word elements. Then, insert your DVD and from the menu click on Chapter 5, Lesson 3, Activity 1, Word Elements and Pronunciation. Listen to the instructor pronounce the medical term and then say the word.

Example: *gastr/ic, (GĀS-trīk) Pertaining to the stomach.*

hem/o/phobia _____
hē-mō-FŌ-bē-ă

lymph/o/pathy _____
līm-FŌP-ă-thē

angi/o/rrhaphy _____
ăn-jē-OR-ă-fē

thromb/o/lysis _____
thrŏm-BŎL-ĭ-sĭs

tachy/pnea _____
tăk-ĭp-NĒ-ă

brady/cardia _____
brăd-ē-KĂR-dē-ă

endo/cardi/um _____
ĕn-dŏ-KĂR-dē-ŭm

phleb/itis _____
flĕb-Ĭ-tĭs

ven/o/tomy _____
vē-NŎT-ŏ-mē

arteri/o/rrhaphy _____
ăr-tē-rē-OR-ă-fē

Lesson 4: Cardiovascular and Lymphatic Systems Abbreviations

Memorize the abbreviations below.

CAD or coronary artery disease. This disease affects the heart's arteries and is now the leading cause of death in the Western world.

CC or cardiac catheterization. When this procedure is performed a small tube is inserted into a large vein which is threaded through the blood vessel until it reaches the heart.

CC can also mean "Chief complaint" that a patient may be experiencing.

CHF or congestive heart failure. This is a generic name for a few conditions that are the result of the heart not pumping enough blood to meet the needs of the body.

CV or cardiovascular, pertaining to the cardiovascular system.

EKG/ECG or electrocardiogram. An EKG is the tracing of the electric currents that show the heartbeat. It is used to diagnose possible heart disorders.

HF or heart failure.

MI or myocardial infarction. This is the clinical name for a heart attack.

RBC or red blood cell/red blood cell count.

AIDS or acquired immunodeficiency syndrome. AIDS is a lack of cellular immunity brought on by the HIV virus. It is usually transmitted by sexual contact or contact with contaminated blood.

HIV or human immunodeficiency virus. HIV is the virus associated with AIDS.

ASA or aspirin. Commonly used as a blood thinner to reduce heart attacks.

NTG or nitroglycerin. Commonly used to treat episodes of angina for patients with coronary artery disease.



To aid in the memorization of this chapter's abbreviations, insert the DVD and click on Chapter 5, Lesson 4, Cardiovascular and Lymphatic Systems Abbreviations. Watch and listen as the abbreviations and their meanings appear on the screen.

Lesson 4 Activity 1: Abbreviation Usage

Rewrite the conversation below using the correct abbreviations. Practice reading it aloud with a partner.

A. Has the patient in room 103 had an electrocardiogram yet?

B. Yes, Dr. Diaz has the results. She also wants the patient's red blood cell count. The patient's family has a history of congestive heart failure and coronary artery disease.

A. The doctor must be concerned about a myocardial infarction. What is the patient's chief complaint?

B. She complains about shortness of breath and dizziness, and at times she has irregular heartbeats. She takes aspirin along with her other medications and carries nitroglycerin with her at all times. She should have taken the nitroglycerin with the symptoms she is experiencing.

A. The doctor just went into her room. I'm sure he will have her take it. Oh yea, there is a great article in the new Medical Journal about acquired immunodeficiency syndrome. A clinic in Denver is having success treating the human immunodeficiency virus with herbal therapy. It really is interesting.

B. Great. I'll read in on my break.

Lesson 5: Dialog Practice

Practice the dialog below with a partner. If no one is available, read both parts out loud several times.

Office Staff: Hello Mrs. Martinez. Are you here for your stress test?

Mrs. Martinez: Yes I am, but I really don't like being hooked up to all those wires and the treadmill makes me very tired.

Office Staff: I'm sorry, but it really is an important tool to help us know the condition of your heart. The last time you were here your EKG showed a slightly irregular rhythm.

Mrs. Martinez: I know that, but I feel fine. I have my nitroglycerin tablets just in case anything goes wrong. I'm not worried.

Office Staff: Are you still taking aspirin daily with your other medications?

Mrs. Martinez: Of course. I don't want to end up like my sister Nancy. She had a heart attack two months ago. I guess you call that a myocardial infarction now. A neighbor did CPR on her for ten minutes before the ambulance got there. I thought she was a goner.

Office Staff: Does she have chronic heart problems too?

Mrs. Martinez: Yep. She's had a malignant tumor removed and bypass surgery too. I've had hardening of some arteries, and one chamber of my heart isn't pumping adequately. I guess I have some plaque accumulation in quite a few blood vessels. But I feel pretty good today. And I'll feel better when this stress test is over.

Office Staff: Well, let's get started. First, I'll take your vitals. You look like you've lost some weight; are you eating enough? Please step on the scale.

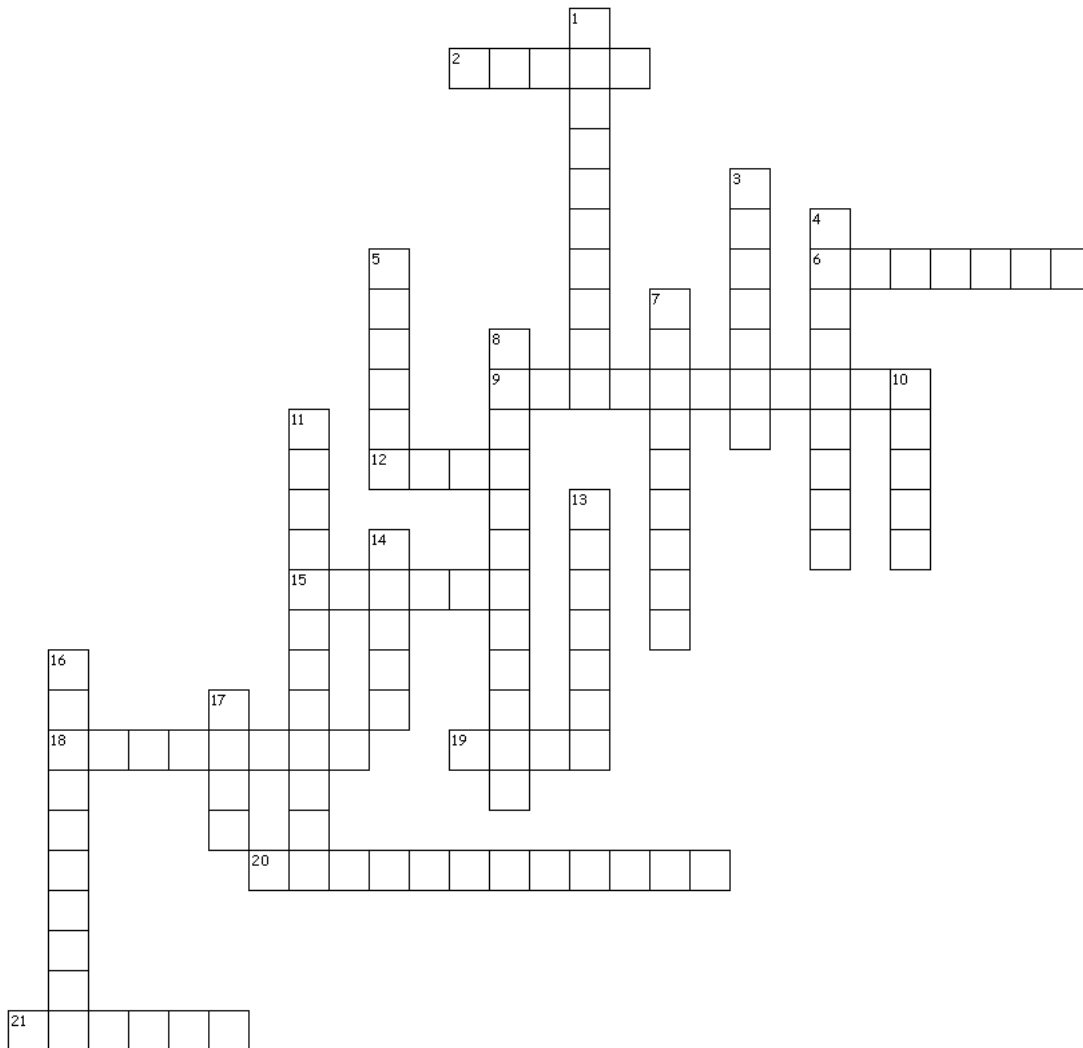
Mrs. Martinez: My appetite isn't what it was when I was young.

Office Staff: Ok, 124 lbs. Yes, you have lost a few pounds. Let's go take your BP. The plaque in your veins makes your blood pressure go up. Have you spoken with our nutrition specialist? You should be on a low cholesterol diet.

Mrs. Martinez: I spoke to a nice lady about food, but I have been eating the same things for 75 years, it is hard to change after that much time. But if I have to I have to. I'll try harder.

Office Staff: Good. Ok, roll up your sleeve and I'll put this cuff on and we'll see how your blood pressure is. Then off to the stress test.

Lesson 6: The Cardiovascular and Lymphatic Systems Crossword



Down

1. dating from birth
3. compartment
4. become less flexible
5. not malignant
7. making less wide
8. get worse
10. trunk of body
11. increase in growth
13. tearing of tissue
14. between thigh and abdomen
16. flexibility
17. heart

Across

2. abnormal growth
6. to get
9. made bigger
12. pathological swelling
15. abnormal sound of heart
18. sufficient
19. rounded projection
20. break; disruption
21. to avoid

Chapter 6: The Digestive System

Lessons

1. The Digestive System Vocabulary
2. The Digestive System
3. Digestive System Word Elements and Medical Terms
4. Digestive System Abbreviations
5. Dialog Practice
6. The Digestive System Crossword

Lesson 1: The Digestive System Vocabulary



Using the glossary provided at the back of this book, define the words below.

Then, insert your DVD and from the menu click on Chapter 6, Lesson 1, The Digestive System Vocabulary. Listen to the vocabulary words and repeat them after the instructor. To hear all the words in order click on the “Play All” button. If you prefer to hear the words individually, click on the word that you want to hear.

absorb _____

acute _____

anus _____

bile _____

biopsy _____

bowel _____

defecation _____

discoloration _____

duct _____

excrete _____

feces _____

jaundice _____

metastasis _____

nausea _____

obese _____

orifice _____

partial _____

preventative _____

resection _____

saliva _____

secrete _____

stool _____

tolerance _____

waste _____

Lesson 1 Activity 1: Vocabulary Practice

Using the vocabulary from this chapter fill in the blanks with the correct word.

1. There are three terms for human waste in the new vocabulary. They are: _____, _____, and _____.
2. The anal orifice is called the _____.
3. The watery solution produced by glands in the mouth is called _____.
4. A _____ blockage of an artery means some blood is still circulating.
5. The spread of disease from one part of the body to another through a blood or lymph vessel is called _____.
6. To soak up liquid is to _____ it.
7. Another word for intestine is _____.
8. The mouth, ear canals, nostrils, and anus are examples of _____.
9. The fluid secreted by the liver is called _____.
10. A tube carrying secretion from a gland is called a _____.
11. A flu shot is a _____ action used to fight the flu.
12. Being very overweight is called being _____.
13. Sharp or intense pain is called _____ pain.
14. After years of taking the same drug the body builds up a _____ to it.
15. Hepatitis causes _____, a yellowing of the skin.
16. A _____ of a tumor can determine if it is benign or malignant.
17. If you are experiencing _____, you feel like vomiting.
18. A _____ of the appendix is called an appendectomy.

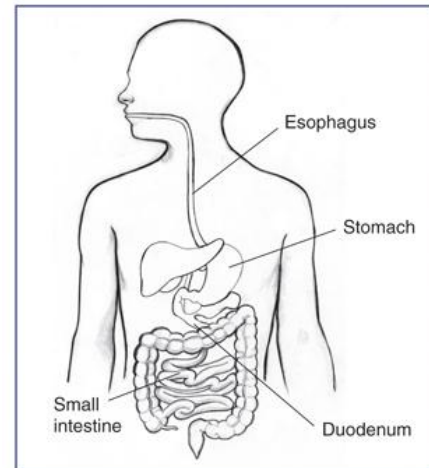
Lesson 2: The Digestive System



Refer to the DVD menu and click on Chapter 6, Lesson 2, The Digestive System. Read along and listen as the instructor reads the text.

The digestive system is made up of a series of hollow organs joined in a long, twisting tube that runs from the mouth to the anus. Other organs help the body break down and absorb food. The digestive tract is made up of the mouth, esophagus, stomach, small intestine, large intestine, rectum, and anus. Inside these hollow organs is a lining called the mucosa. The mucosa contains very small glands that secrete liquids in the mouth (salivary glands), stomach, and small intestine, which help digest food. The digestive tract also contains a layer of smooth muscle that helps break down food and move it along the tract.

The liver and the pancreas, two solid digestive organs, produce digestive juices that reach the intestine through small tubes called ducts. The gallbladder stores the liver's digestive juices until they are needed in the intestine. Digestion is the process by which food and drink are broken down into their smallest parts so the body can use them to build and nourish cells and to provide energy. The nutrients we consume are



absorbed into the blood and carried to cells throughout the body. Parts of the nervous and circulatory systems also play major roles in the digestive system.

Digestion begins in the mouth, when you chew and swallow food. Swallowed food is pushed into the esophagus, which is a tube that is connected to the stomach. The stomach stores the swallowed food and liquid. Soon the food, liquid, and digestive juice produced by the stomach are mixed together by a muscle action in the stomach. Then the stomach empties its contents slowly into the small intestine. As the food dissolves into the juices from the pancreas, liver, and intestine, the contents of the intestine are mixed and pushed forward to allow further digestion. The digested nutrients are absorbed through the walls of the intestine and transported throughout the body. The waste products of this process include undigested parts of the food, known as fiber. These materials are pushed into the large intestine, where they stay until the feces are excreted by a bowel movement.

Most digested molecules of food, as well as water and minerals, are absorbed through the small intestine. The mucosa of the small intestine contains many folds that are covered with tiny fingerlike projections called villi. In turn, the villi are covered with microscopic projections called microvilli. These structures create a vast surface area through which nutrients can be absorbed. Specialized cells allow absorbed materials to cross the mucosa into the blood, where they are carried off in the bloodstream to other parts of the body for storage or further chemical change.

Together, nerves, the blood, and the organs of the digestive system conduct the complex tasks of digesting and absorbing nutrients from the foods and liquids you consume each day.

Lesson 2 Activity 1: Digestive System Questions

Answer the questions below about the digestive system.

1. What do the organs of the digestive system do?
2. What is the digestive tract made up of?
3. What does the liquid secreted by the mucosa do?
4. What are the two solid organs of the digestive system?
5. What does the gallbladder do?
6. Where does digestion begin?
7. What is the tube that connects the mouth to the stomach called?
8. What does the stomach empty its contents into?
9. What is fiber?
10. Where are most food molecules absorbed?
11. What are the folds of the small intestine covered with?

Lesson 2 Activity 2: Identify Parts of the Digestive System

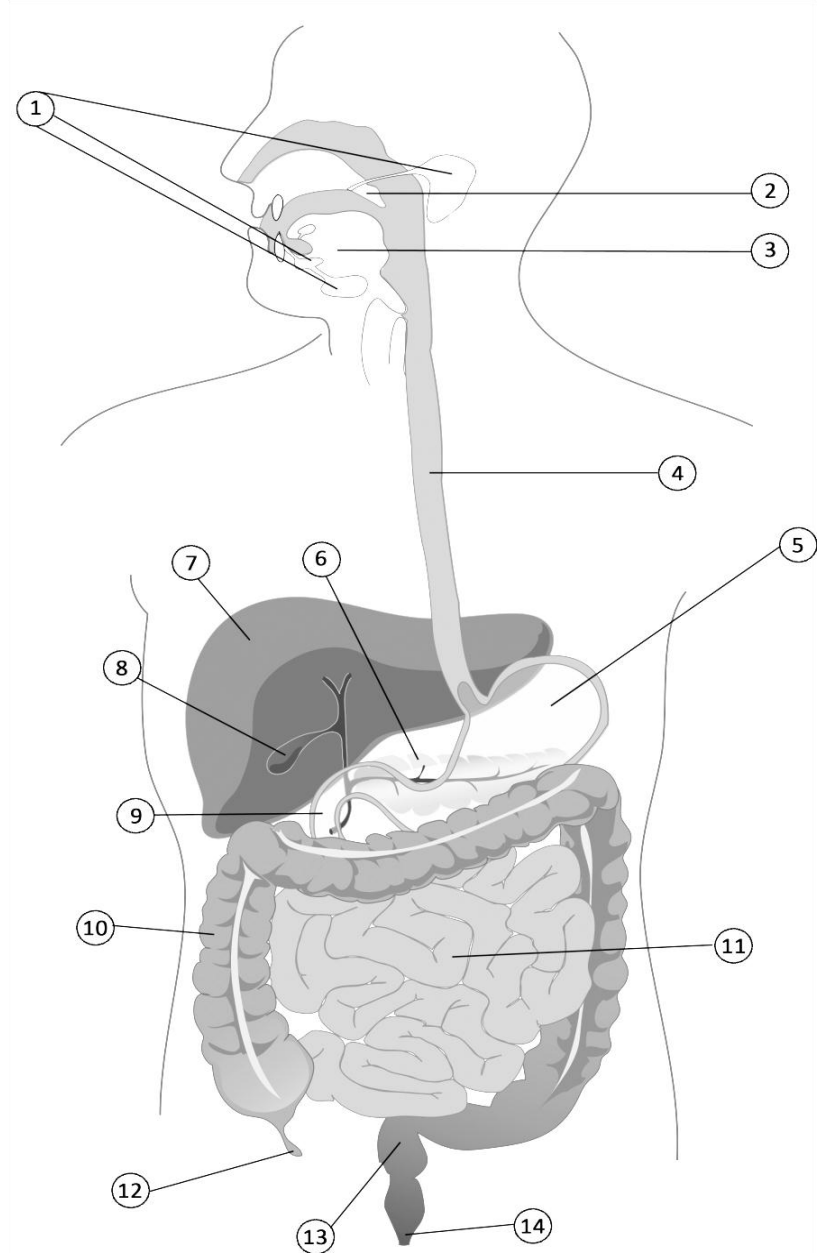
Directions: Using your medical terminology book or the internet for a reference, fill in the numbered blanks with the terms of the digestive system.

pancreas
ileum (small intestine)
salivary glands
liver
pharynx

esophagus
rectum
anus
stomach
gall bladder

duodenum
colon (large intestine)
appendix
tongue

- 1) _____
- 2) _____
- 3) _____
- 4) _____
- 5) _____
- 6) _____
- 7) _____
- 8) _____
- 9) _____
- 10) _____
- 11) _____
- 12) _____
- 13) _____
- 14) _____



Lesson 3: Digestive System Word Elements and Medical Terms

Word root	Meaning	Combining form
col.....	colon.....	col/o
colon.....	colon.....	colon/o
enter.....	intestine.....	enter/o
esophag.....	esophagus.....	esophag/o
gastr.....	stomach.....	gastr/o
hepat.....	liver.....	hepat/o
pancreat.....	pancreas.....	pancreat/o

Suffixes	Meaning
-megaly.....	enlargement
-phagia.....	swallowing; eating
-scopy.....	visual exam

Prefixes	Meaning
dia-.....	through; across
eu-.....	good; normal

Lesson 3 Activity 1: Define and Pronounce Medical Terms



In the activity below, explain what the words mean through your understanding of the word elements. Then, insert your DVD and from the menu click on Chapter 6, Lesson 3, Activity 1, Word Elements and Pronunciation. Listen to the instructor pronounce the medical term and then say the word..

Example: *gastr/ic, (GĀS-trīk) Pertaining to the stomach.*

gastr/o/enter/o/logist_____

gās-trō-ĕn-tēr-ŌL-ō-jīst

esophag/o/plasty_____

ē-SŌF-ă-gō-plās-tē

endo/scopy_____

ĕn-DŌS-kō-pē

hepat/o/megaly_____

hĕp-ă-tō-MĒG-ă-lē

dys/phagia _____
dīs-FĀ-jē-ă
pancreat/ectomy _____
păn-krē-ă-TĚK-tō-mē
hepat/it is _____
hĕp-ă-TĪ-tīs
colon/o/scopy _____
kō-lŏn-Ŏs-kō-pē
enter/o/pathy _____
ĕn-tĕr-ŎP-ă-thē

Lesson 4: Digestive System Abbreviations

Memorize the abbreviations below.

BE means barium enema. A BE is used for diagnosis of obstructions, tumors or other abnormalities in the lower GI tract.

BM means bowel movement or stool.

CA means cancer. Colon CA means colon cancer.

cm means centimeter. 1 cm=0.39 inches.

FBS means fasting blood sugar. Blood sugar levels are tested in the morning before eating.

GI means gastrointestinal.

GTT is a glucose tolerance test. It is used to test for diabetes, insulin resistance, and sometimes reactive hypoglycemia.

IBD means inflammatory bowel disease. This is another name for ulceration of the mucosa of the colon.

N/V means nausea and vomiting.

UGI means upper gastrointestinal: the esophagus, stomach, and duodenum.



To aid in the memorization of this chapter's abbreviations, insert the DVD and click on Chapter 6, Lesson 4, The Digestive System Abbreviations. Watch and listen as the abbreviations and their meanings appear on the screen.

Lesson 4 Activity 1: Digestive System

Read the conversation below and use abbreviations for the underlined words.

A. Does Mr. Thompson in room 115 have a gastrointestinal disorder?

B. I think so. The doctor ordered a barium enema and some other tests. He wants a fasting blood sugar level and a glucose tolerance test, so maybe there are symptoms of diabetes too.

A. What is the patient's chief complaint?

B. He has nausea and vomiting, frequent urination, and pain with his bowel movement.

A. Well, he had a colonoscopy a couple of months ago, and there was a .25 centimeter polyp on his colon. Maybe the barium enema will show inflammatory bowel disease.

B. Colon cancer could be an issue too with that polyp. Let's get those tests started.

Lesson 4 Activity 2: Abbreviations

Now fill in the blanks below using the corresponding abbreviations. Practice reading it aloud with a partner.

A. Does Mr. Thompson in room 115 have a _____ disorder?

B. I think so. The doctor ordered a _____ and some other tests. He wants a _____ count and _____, so maybe there are symptoms of diabetes too.

A. What is the patient's _____?

B. He has _____, frequent urination, and pain with his _____.

A. Well, he had a colonoscopy a couple of months ago, and there was a .25 _____ polyp on his colon. Maybe the _____ will show _____.

B. Colon _____ could be an issue too with that polyp. Let's get those tests started.

Lesson 5: Dialog Practice

Practice the dialog below with a partner. If no one is available, read both parts out loud several times.

Office Staff: Good morning Mr. Evans. Are you here for a colonoscopy?

Mr. Evans: Yes. Although it was difficult, I managed to drink all the solution. I had numerous bowel movements and my stools became watery diarrhea. I feel a little weak but very cleaned out.

Office Staff: Good. The doctor will get a good look at your colon and rectum. Please put on this hospital gown and I'll take your vitals...

Your BP is 130/90; pulse is 78; weight is 182 and respirations are normal. Everything looks fine.

Mr. Evans: Well, I think my pulse and blood pressure are a little high because I'm a little nervous. I've had some blood in my stools lately, I've been nauseous often and I've had acute pain at times in my lower abdomen.

Office Staff: Well, let's hope the colonoscopy shows us what is causing these things. Please lie down on this bed, the anesthesiologist will be here in a moment.

(One hour later)

Office Staff: How are you feeling Mr. Evans?

Mr. Evans: Ok. I'm very thirsty. Can I have some water please?

Office Staff: Sure. The doctor will be here in a moment and she will explain the results of your procedure. Here she is now.

Dr. Miller: Hello Mr. Evans. I removed a .25 cm polyp from your colon. I'm going to send it to the lab for a biopsy and we should have the results in a few days. There was only one and the rest of your colon looked pretty good. The blood in your stools was probably from a hemorrhoid and there is no need for concern about it. I'm still concerned about your acute abdominal pain so the biopsy may help us there.

I see that your wife is here to drive you home; that's good. Don't operate machinery for 24 hours, and avoid alcohol. You can resume your normal diet but I recommend you wait a day to resume normal activities. Do you have any questions?

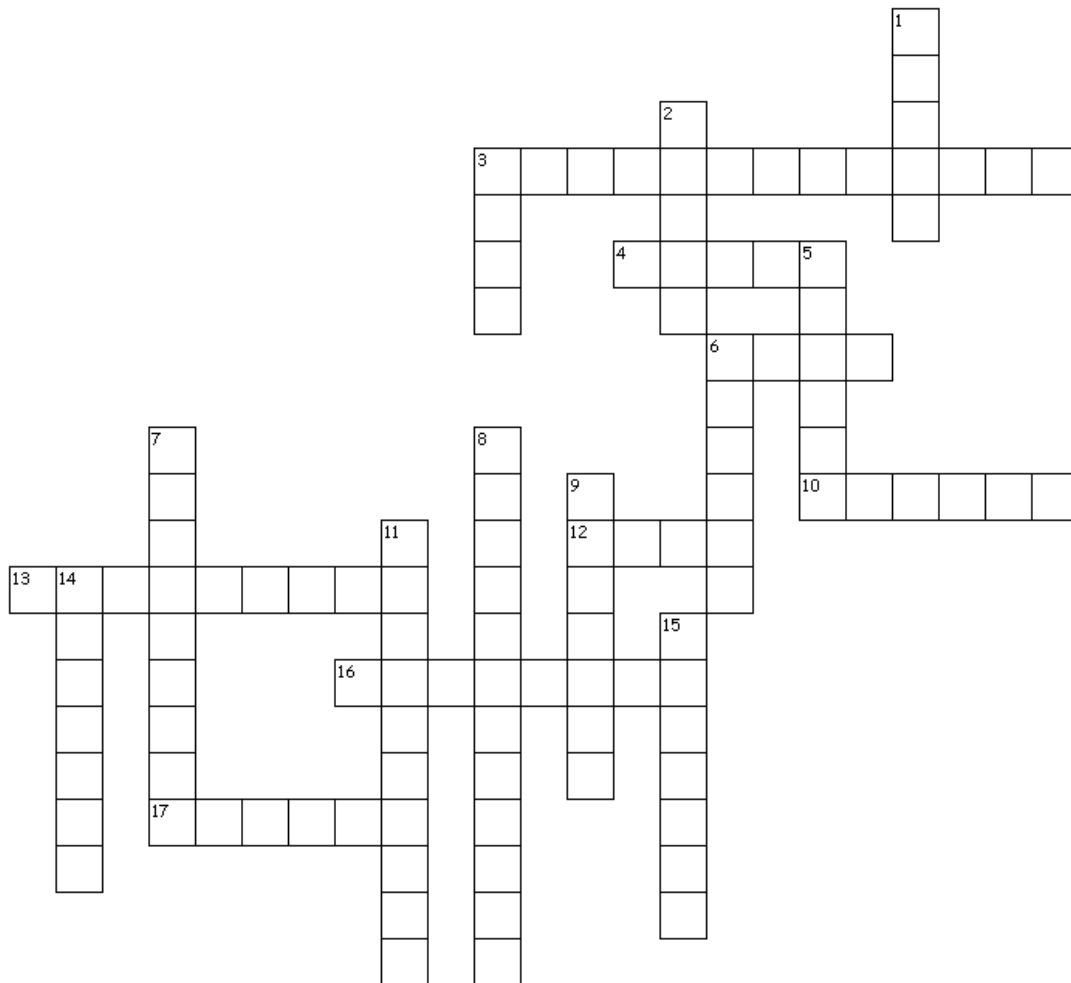
Mr. Evans: What about the nausea?

Dr. Miller: It could be stress related from having the blood in your stools. That alarms a lot of patients. Stay away from very spicy foods for a while and see if it clears up. If not, let me know in a week.

Office Staff: Ok Mr. Evans, you can get out of that hospital gown now. Do you need any help?

Mr. Evans: No thank you. I'm feeling fine.

Lesson 6: The Digestive System Crossword



Across

- 3. mark; stain
- 4. body waste
- 6. fluid of the liver
- 10. soak up
- 12. anal orifice
- 13. body gets used to something
- 16. yellow discoloration
- 17. urge to vomit

Down

- 1. sharp; intense
- 2. intestine
- 3. tube of gland
- 5. watery solution in mouth
- 6. tissue cut out for exam
- 7. remove part or all of an organ
- 8. stop something
- 9. not whole
- 11. spread of disease through vessels
- 14. an opening
- 15. discharge; release

Chapter 7: The Urinary System

Lessons

1. The Urinary System Vocabulary
2. The Urinary System
3. Urinary System Word Elements and Medical Terms
4. Urinary System Abbreviations
5. Dialog Practice
6. The Urinary System Crossword

Lesson 1: The Urinary System Vocabulary



Using the glossary provided at the back of this book, define the words below. Then, insert your DVD and from the menu click on Chapter 7, Lesson 1, The Urinary System Vocabulary. Listen to the vocabulary words and repeat them after the instructor. To hear all the words in order click on the “Play All” button. If you prefer to hear the words individually, click on the word that you want to hear.

concentration _____

dissolve _____

diuretic _____

edema _____

eliminate _____

excessive _____

filter _____

fixate _____

function _____

hernia _____

hypertension _____

infection _____

insert _____

intravenous _____

protrude _____

retention _____

stimulate _____

toxin _____

urinalysis _____

urination _____

void _____

Lesson 1 Activity 1: Matching

Match the word with its meaning.

- | | |
|-----------------------|---|
| ___ 1. function | a. to put in |
| ___ 2. eliminate | b. examination of urine |
| ___ 3. insert | c. too much |
| ___ 4. protrude | d. make stable |
| ___ 5. excessive | e. make liquid of |
| ___ 6. filter | f. to urinate |
| ___ 7. edema | g. passing of urine |
| ___ 8. retention | h. remove or get rid of |
| ___ 9. stimulate | i. an abnormal bulge in the wall of a cavity |
| ___ 10. diuretic | j. into a vein |
| ___ 11. fixate | k. something that stimulates urination |
| ___ 12. void | l. increasing the strength of something |
| ___ 13. hernia | m. swelling |
| ___ 14. urination | n. poison |
| ___ 15. urinalysis | o. invasion of the body by pathogenic germs |
| ___ 16. concentration | p. abnormal keeping of fluid in the body |
| ___ 17. infection | q. normal action of a body part |
| ___ 18. toxin | r. rise in BP; high BP |
| ___ 19. dissolve | s. arouse or excite |
| ___ 20. hypertension | t. bulge; swell |
| ___ 21. intravenous | u. a thing through which gas or liquid passes and matter is removed |

Lesson 2: The Urinary System



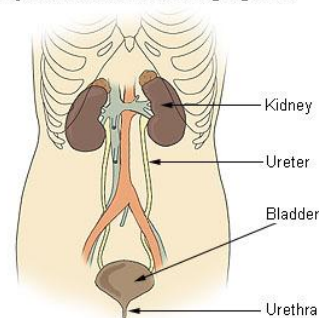
Refer to the DVD menu and click on Chapter 7, Lesson 2, The Urinary System.

Read along and listen as the instructor reads the text.

The organs, tubes, muscles, and nerves that work together to create, store, and carry urine are the urinary system. The urinary system includes two kidneys, two ureters, the bladder, two sphincter muscles, and the urethra.

Your body takes nutrients from food and uses them to maintain all bodily functions. After your body has taken what it needs from the food, waste products are left behind in the blood and in the bowel. The urinary system works with the lungs, skin, and intestines—all of which also excrete wastes—to keep the

Components of the Urinary System



chemicals and water in your body balanced. Adults eliminate about a quart and a half of urine each day. The amount depends on many factors, especially the amounts of fluid and food a person consumes and how much fluid is lost through sweating and breathing. Certain types of medications can also affect the amount of urine eliminated.

The urinary system removes a type of waste called urea from your blood. Urea is produced when foods containing protein, such as meat, poultry, and certain vegetables, are broken down in the body. Urea is carried in the bloodstream to the kidneys. The kidneys are bean-shaped organs about the size of your fists. They are near the middle of the back, just below the rib cage. The kidneys remove urea from the blood through tiny filtering units called nephrons.

From the kidneys, urine travels down two thin tubes called ureters to the bladder. The ureters are about 8 to 10 inches long. Muscles in the ureter walls constantly tighten and relax to force urine downward away from the kidneys. If urine is allowed to stand still, or back up, a kidney infection can develop. Small amounts of urine are emptied into the bladder from the ureters about every 10 to 15 seconds.

The bladder is a hollow muscular organ shaped like a balloon. It sits in your pelvis and is held in place by ligaments attached to other organs and the pelvic bones. The bladder stores urine until you are ready to go to the bathroom to empty it. It swells into a round shape when it is full and gets smaller when empty. If the urinary system is healthy, the bladder can hold up to 16 ounces (2 cups) of urine comfortably for 2 to 5 hours.

Circular muscles called sphincters help keep urine from leaking. The sphincter muscles close tightly like a rubber band around the opening of the bladder into the urethra, the tube that allows urine to pass outside the body.

Nerves in the bladder tell you when it is time to empty your bladder. As the bladder first fills with urine, you may notice a feeling that you need to urinate. The sensation to urinate becomes stronger as the bladder continues to fill and reaches its limit. At that point, nerves from the bladder send a message to the brain that the bladder is full, and your urge to empty your bladder gets stronger. When you urinate, the brain signals the bladder muscles to tighten, squeezing urine out of the bladder. At the same time, the brain signals the sphincter muscles to relax. As these muscles relax, urine exits the bladder through the urethra. When all the signals occur in the correct order, normal urination occurs.

Lesson 2 Activity 1: Urinary System Questions

Answer the questions below about the urinary system.

1. What does the urinary system include?
2. How much urine does an adult eliminate each day?

3. List 3 factors that can affect the amount of fluid a person urinates daily.

1.

2.

3.

4. What is *urea*?

5. Where are the kidneys located?

6. What do the kidneys do?

7. Urine travels from the kidneys to the bladder through what?

8. How long are the ureters?

9. What does the bladder do?

10. How much urine can a healthy bladder hold?

11. What do sphincter muscles do?

12. What tells you that it is time to empty your bladder?

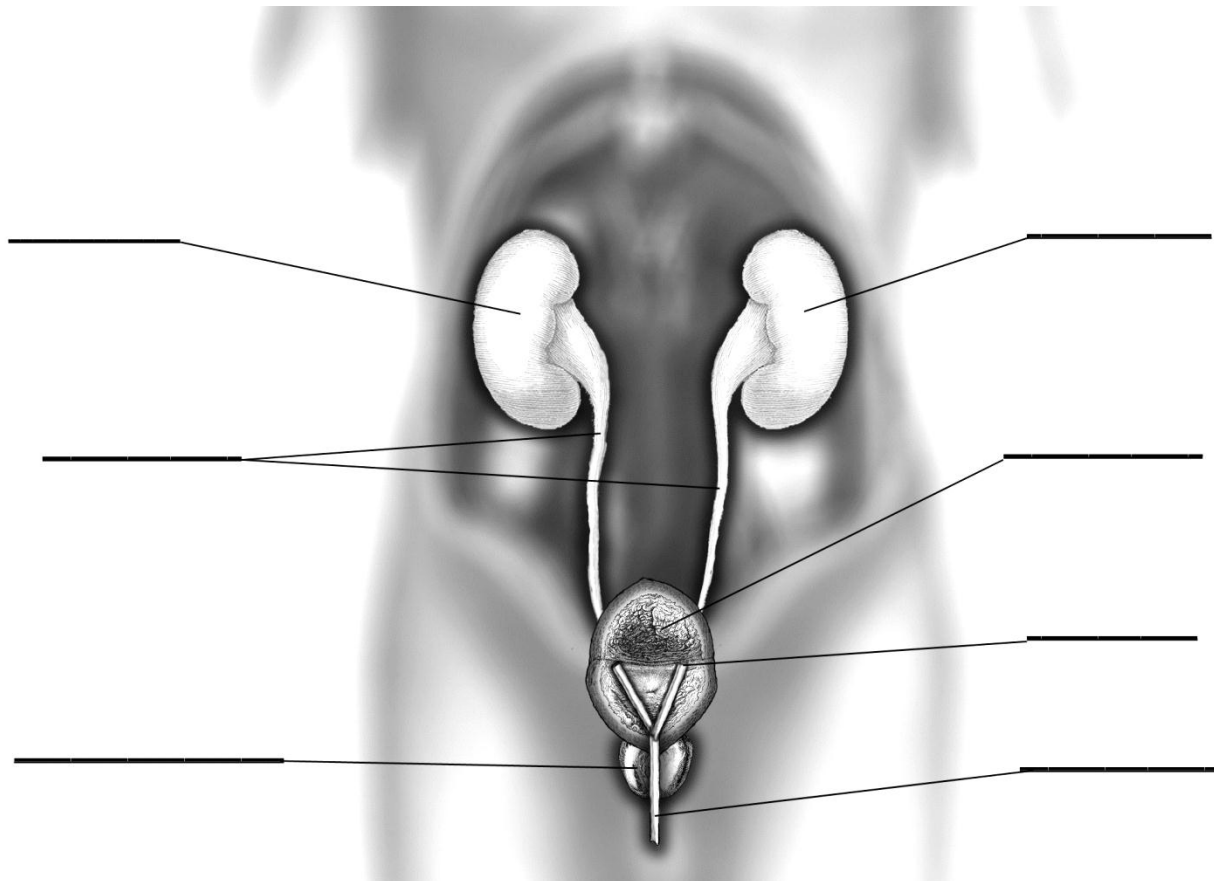
Lesson 2 Activity 2: Identify Parts of the Urinary System

Using your medical terminology book or the internet for a reference, fill in the blanks with the correct urinary system term.

left kidney
ureters
urinary bladder

ureteral orifice
male prostate gland
urethra

right kidney



Lesson 3: Urinary System Word Elements and Medical Terms

Word root	Meaning	Combining form
cyst.....	bladder.....	cyst/o
nephr.....	kidney.....	nephr/o
ren.....	kidney.....	ren/o
ureter.....	ureter.....	ureter/o
urethra.....	urethra.....	urethra/o

Suffixes	Meaning
-cele.....	hernia; swelling
-ectomy.....	excision or removal
-lith.....	stone or calculus
-scope.....	instrument for examining
-tome.....	instrument to cut
-uria.....	urine

Prefix	Meaning
poly-.....	many; much; excessive

Lesson 3 Activity 1: Define and Pronounce Medical Terms



In the activity below explain what the words mean through your understanding of the word elements. Then, insert your DVD and from the menu click on Chapter 7, Lesson 3, Activity 1, Word Elements and Pronunciation. Listen to the instructor pronounce the medical term and then say the word.

Example: *gastr/ic, (GĀS-trīk) Pertaining to the stomach.*

nephr/ectomy_____

ně-FRĚK-tō-mě

cyst/o/lith_____

SĪS-tō-līth

ureter/o/cyst/o/scope_____

ū-rē-těr-ō-SĪS-tō-scōp

poly/uria_____

pōl-ē-Ū-rē-ă

nephr/o/megaly_____

něf-rō-MĚG-ă-lē

ureter/o/rrhaphy _____

ū-rē-tēr-OR-ră-fē

cyst/o/cele _____

SĭS-tō-sēl

urethr/algia _____

ū-rē-THRĀL-jē-ă

cyst/o/lith/o/tomy _____

sĭs-tō-lĭth-ŎT-ō-mē

Lesson 4: Urinary System Abbreviations

Memorize the abbreviations below.

BNO or bladder neck obstruction is a condition where the bladder neck doesn't open enough during voiding.

cysto is an abbreviation for a visual examination of the urinary tract by means of a cystoscope inserted in the urethra.

KUB stands for kidney, ureter, and bladder.

PSA or prostate-specific antigen is a test to detect prostate cancer.

UA or urinalysis is a test of the urine.

US or ultrasound is an imagery technique using high-frequency sound waves that produce detailed images.

UTI stands for urinary tract infection. UTIs are the cause of most doctor visits by people having urinary tract problems.



To aid in the memorization of this chapter's abbreviations, insert the DVD and click on Chapter 7, Lesson 4, The Urinary System Abbreviations. Watch and listen as the abbreviations and their meanings appear on the screen.

Lesson 4 Activity 1: Abbreviations and Pronunciation

Rewrite the conversation below using the correct abbreviations. Practice reading it aloud with a partner.

Office staff: Mr. Kohl is here for a cystoscopic examination. His chief complaint is he has lot of pain when he voids and he voids often. He has a history of urinary tract infections.

Dr. Jones: We will need to examine his kidneys, ureters, and bladder too. We better do an ultrasound.

Office staff: His pain could be a bladder neck obstruction. Would that show up in a urinalysis?

Dr. Jones: I don't think so. The cystoscopic examination will help us there. What are his blood pressure and most recent white blood count?

Office staff: His blood pressure is 160/90, and I'll look in his records for the white blood count.

Dr. Jones: At his age and with his history I think we better run a prostate-specific antigen test. Prostate cancer is an issue with his symptoms.

Office staff: I'll schedule the ultrasound and prostate-specific antigen test for his next visit. He is waiting for you in room 202.

Lesson 5: Dialog Practice

Practice the dialog below with a partner. If no one is available, read both parts out loud several times.

Office Staff: Hello. Please sign in on this clipboard and fill out these forms. When you have finished I'll take your vital signs.

Mr. Oliver: Ok. (15 minutes later)

Office Staff: You wrote on our form that you have severe pain at times in your abdomen.

Mr. Oliver: Yes. It comes in waves. It's the worst pain I've ever experienced. I void frequently and it is painful when I do.

Office Staff: Is there any blood in your urine?

Mr. Oliver: Yes. My wife thinks I have a sexually transmitted disease that I'm going to pass to her, but that is impossible!

Office Staff: Let's not diagnose anything until we run some tests. The doctor will see you in a moment. (A few minutes later)

Office Staff: Dr. Jones, Mr. Oliver is waiting for you in room 201. He is experiencing polyuria and urethralgia. He also has some blood in his urine.

Dr. Jones: Has he been examined for a cystolith or a nephrolith?

Office Staff: Not yet. Should I schedule a cysto?

Dr. Jones: Yes. And schedule another visit next week for Lupe Hernandez in room 209. I have to keep a close eye on her nephromegaly. It has gotten worse. I know her sister had a nephrectomy last year and I really want to save Lupe's kidney.

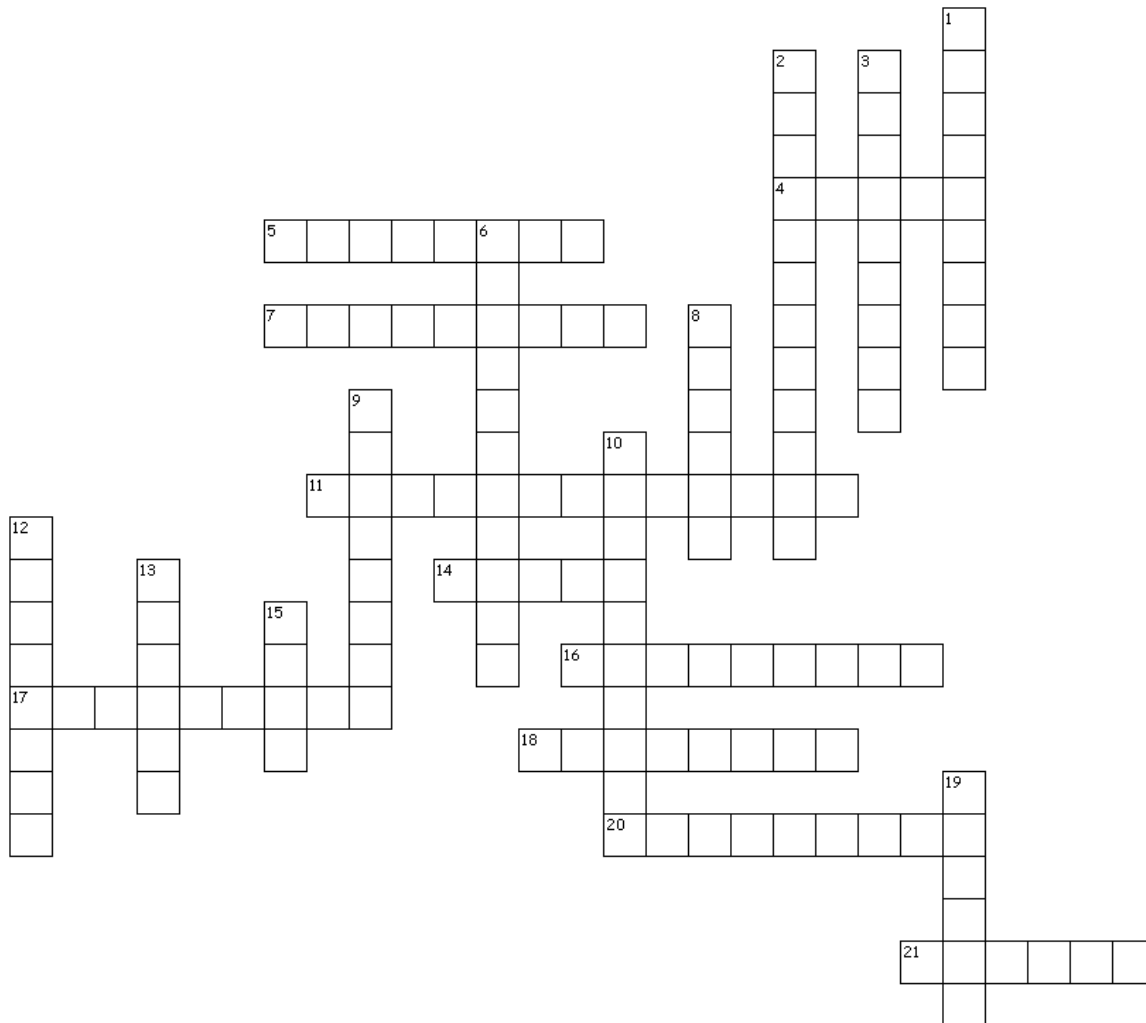
Office Staff: Ok. I'll do that now.

Dr. Jones: I suspect that Anna Lane in room 210 has a UTI. She has all the symptoms of a bladder infection. Despite the constant urge to urinate, only a small amount of urine passes. She also has a burning sensation while voiding. Ask her if she uses a diaphragm for birth control. That sometimes presses on the bladder and keeps it from emptying completely.

Office Staff: Ok. Should I get a urine sample for a UA and set up a blood test?

Dr. Jones: Yes, that should show us what we need to know.

Lesson 6: The Urinary System Crossword



Across

- 4. swelling
- 5. normal action of a body part
- 7. result of germs invading body
- 11. increasing of strength
- 14. poison
- 16. remove
- 17. too much
- 18. make fluid of
- 20. arouse
- 21. matter is removed by this

Down

- 1. passing of urine
- 2. rise in BP
- 3. body keeps fluid
- 6. into a vein
- 8. make stable
- 9. bulge
- 10. examination of urine
- 12. stimulates urination
- 13. to put in
- 15. to urinate
- 19. abnormal bulge in wall of cavity

Chapter 8: The Reproductive System

Lessons

1. The Reproductive System Vocabulary
2. The Male and Female Reproductive Systems
3. Reproductive System Word Elements and Medical Terms
4. Reproductive System Abbreviations
5. Dialog Practice
6. The Reproductive System Crossword

Lesson 1: The Reproductive System Vocabulary



Using the glossary provided at the back of this book, define the words below.

Then, insert your DVD and from the menu click on Chapter 8, Lesson 1, The Reproductive System Vocabulary. Listen to the vocabulary words and repeat them after the instructor. To hear all the words in order, click on the “Play All” button. If you prefer to hear the words individually, click on the word that you want to hear.

delivery _____

ectopic pregnancy _____

ejaculate _____

embryo _____

estrogen _____

fertilization _____

fetus _____

follicle _____

genitalia _____

hemorrhage _____

hormones _____

infertile _____

intercourse _____

lubricate _____

menopause _____

menstruation _____

obstetrics _____

outpatient _____

scanty _____

sterile _____

testosterone _____

urologist _____

Lesson 1 Activity 1: Fill in the Blanks

Using the vocabulary from this chapter fill in the blanks with the correct word.

1. A substance produced by one tissue that affects another part of the body, like its growth, is called a _____.
2. The external reproductive organs are called _____.
3. _____ is the process of becoming pregnant.
4. A developing human from two months after conception to birth is called a _____.
5. In women the monthly discharge of blood from the uterus is called _____.
6. _____ is sexual contact between people.
7. When a child is born we call it a _____.
8. A _____ is a small body cavity or sac.
9. A developing human from conception to the 8th week is called an _____.
10. A _____ is bleeding or often severe bleeding.
11. When menstruation stops, usually between ages 45-55, a woman experiences _____.
12. _____ is natural steroids secreted by the ovaries.
13. To make something smooth and slippery you _____ it.
14. _____ is the state of being unable to reproduce.
15. To _____ is to shoot or eject fluid.

16. The natural steroid produced by the testes is called _____.
17. An _____ is a patient who is treated at a hospital and does not spend the night there.
18. If something is small or limited we say it is _____.
19. When a fertilized egg begins to develop outside the uterus, like in a fallopian tube, it is called an _____.
20. The branch of medicine that cares for pregnant women is called _____.
21. A _____ specializes in the male reproductive and urinary systems.

Lesson 2: The Male Reproductive System

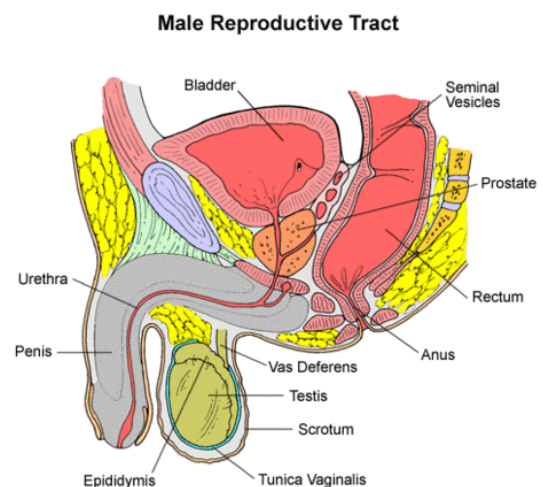


Refer to the DVD menu and click on Chapter 8, Lesson 2, The Reproductive System. Read along and listen as the instructor reads the text.

The male reproductive system is made up of body parts in the male designed to create life. The reproductive system includes the two testes, a network of ducts, the seminal vesicles, the prostate gland, and the penis.

The testes are two oval glands located in the scrotum (the bag of skin that hangs behind the penis). They produce the male sex hormone testosterone and sperm. The testes discharge sperm into the epididymis, the first structure in the duct system. Other passageways include the two vasa deferentia, the ejaculatory duct, and the urethra (the tube that connects the bladder to the outside of the body).

The epididymis runs along the top and side of each testis. Inside the epididymis are several ducts that pass sperm from the testis into the vas deferens. The vas deferens loops up into the body before descending into a duct in the seminal vesicle. This duct joins the ejaculatory duct,



which extends through the prostate gland, and enters the upper segment of the urethra. At different times, the urethra functions as a passageway for urine and for sperm.

As sperm travel through the duct system, they combine with fluids from the seminal vesicles, the prostate gland, and the urethra to form semen. The two seminal vesicles, which lie near the bottom of the bladder, discharge a thick fluid.

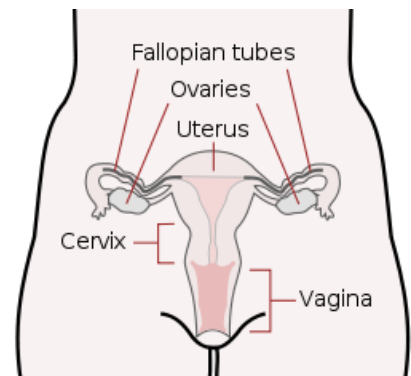
The prostate gland is a small, doughnut-shaped organ that completely surrounds the urethra. The prostate gland secretes a substance that makes up the major portion of seminal fluid. Proper prostate secretion is thus essential to effective sperm action.

The penis is the external organ that shoots sperm into the female during sexual intercourse. During sexual excitement, the penis becomes filled with blood, making the penis rigid enough to enter the vagina. The semen, which is formed in the urethra, then travels out of the penis during ejaculation.

Lesson 2: The Female Reproductive System

The female reproductive system is made up of special organs designed to perform a certain function. The female reproductive organs make it possible for a woman to have a baby. The uterus, fallopian tubes, ovaries and the vagina are the main body parts of the female reproductive system.

The vagina is a tube about four to five inches long. It connects the uterus with the outside of the body. The part of the uterus that meets the vagina is called the cervix. The cervix is a very tiny opening that leads into the uterus. The uterus is about the size and shape of an upside-down pear. Another name for the uterus is the womb. The uterus is where a baby grows and develops inside the mother. It is a hollow organ with muscular walls, and is located inside of a female's body between the hips. On each side of the uterus there are small organs called ovaries. The ovaries contain thousands of egg cells. These egg cells are only about the size of a tiny grain of sand. When an egg cell is released from an ovary it must travel to the uterus. Directly next to each ovary is a thin tube through which the egg cell travels to get to the uterus. These thin tubes are called fallopian tubes. The interior of a fallopian tube is only the thickness of two human hairs.



Ovulation is the release of an egg cell from one of the ovaries. This event occurs about once a month near the midpoint of a woman's menstrual cycle. The egg travels into the fallopian tube and then begins a four to five day trip to the uterus. The fallopian tube is only about five inches long and very narrow, so the egg moves slowly.

When a sperm cell from the male meets and joins with an egg cell from the woman fertilization occurs. This happens inside of the fallopian tube. Fertilization usually occurs as

a result of sexual intercourse. The egg and sperm need to meet and combine in order to make a baby. When they do, a woman becomes pregnant.

Lesson 2 Activity 1: Male Reproductive System Questions

Answer the questions below about the male reproductive system.

1. What is the male reproductive system made up of?
2. Where are the testes located?
3. What do the testes discharge sperm into?
4. Which tube connects the bladder to the outside of the body?
5. The urethra acts as a passageway for what?
6. What gland completely surrounds the urethra?
7. What is essential for effective sperm action?
8. What makes the penis rigid enough to enter the vagina?

Lesson 2 Activity 2: Female Reproductive System Questions

Answer the questions below about the female reproductive system.

1. What are the main body parts of the female reproductive system?
2. What does the vagina connect the outside of the body to?
3. What is the cervix?
4. What is another name for the uterus?
5. What do the ovaries contain?
6. The eggs travel from the ovaries to the uterus through what?
7. How long does it take for the eggs to travel through the fallopian tube to the uterus?
8. Where does the fertilization of the egg occur?

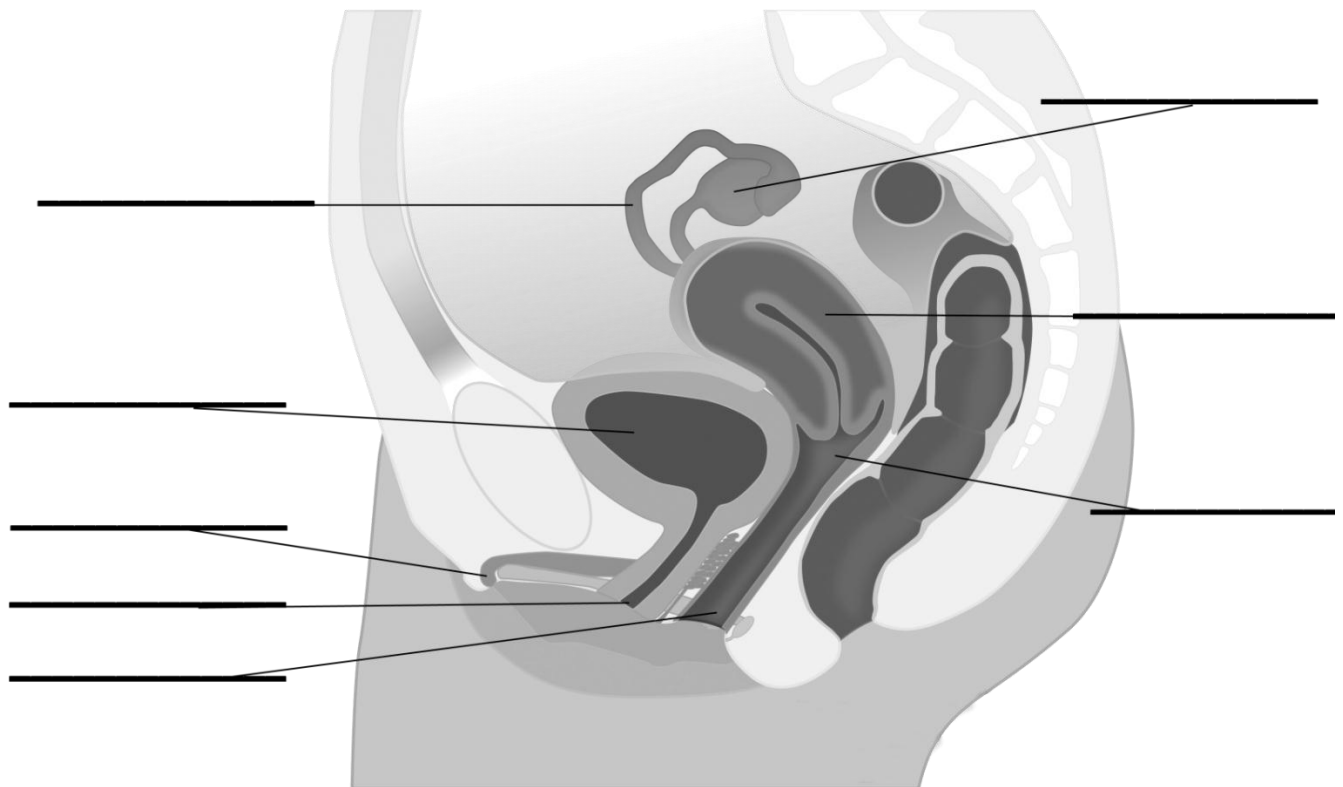
Lesson 2 Activity 3: Color and Label the Illustration

Use your medical terminology book or the internet as a reference and fill in the blanks with the correct terms.

fallopian tube
clitoris
vagina

uterus
cervix
bladder

urethra
ovary



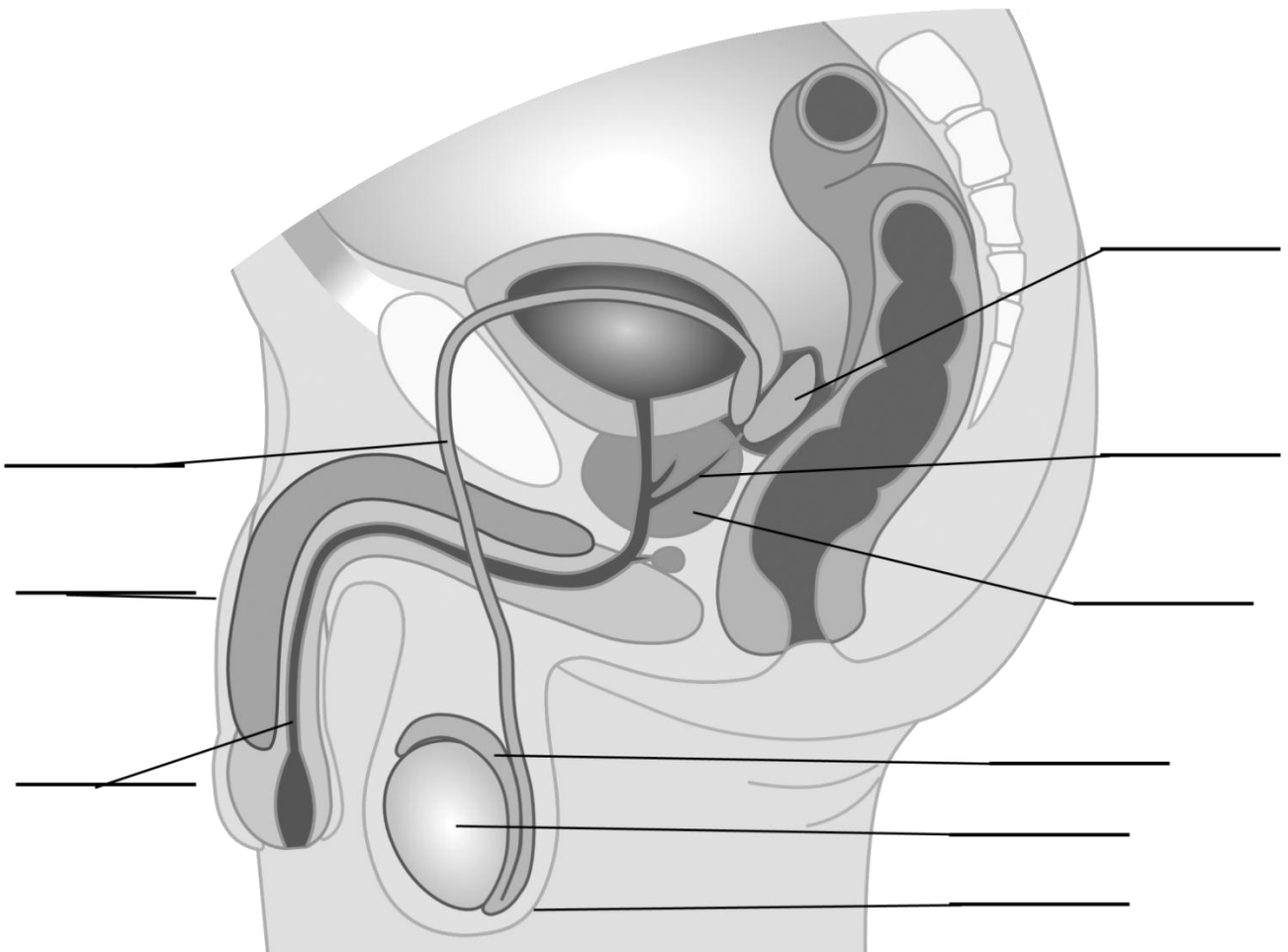
Lesson 2 Activity 4: Color and Label the Illustration

Use your medical terminology book or the internet as a reference and fill in the blanks with the correct terms.

vas deferens
penis
urethra

scrotum
testis
epididymis

prostate gland
seminal vesicle
ejaculatory duct



Lesson 3: Reproductive System Word Elements and Medical Terms

Word root	Meaning	Combining form
-----------	---------	----------------

colp	vagina	colp/o
hyster	uterus	hyster/o
salping	tube; (usually fallopian)	salping/o
test	testis	test/o
spermat	sperm	spermat/o
sperm	sperm	sperm/o
prostat	prostate	prostat/o

Suffixes	Meaning
----------	---------

-cele	hernia; swelling
-scope	instrument for examining
-tocia	childbirth; labor

Prefixes	Meaning
----------	---------

dys-	bad; painful; difficult
hyper-	excessive; too much

Lesson 3 Activity 1: Define and Pronounce Medical Terms



In the activity below, explain what the words mean through your understanding of the word elements. Then, insert your DVD and from the menu click on Chapter 8, Lesson 3, Activity 1, Word Elements and Pronunciation. Listen to the instructor pronounce the medical term and then say the word.

Example: *gastr/ic, (GĀS-trīk) Pertaining to the stomach.*

prostat/o/megaly _____

prōs-tă-tō-MĒG-ă-lē

spermat/o/cyte _____

spēr-MĀT-ō-sīt

hyster/ectomy _____

hīs-tēr-Ēk-tō-mē

test/algia _____

tes-TĀL-jē-ă

salping/o/cele _____

sāl-PĪNG-ō-cēl

hyster/o/plasty _____

hĭs-Tĕ-rō-plās-tē

colp/o/scope _____

KŌL-pō-skōp

dys/tocia _____

dĭs-TŌ-sē-ă

hyster/o/scopy _____

hĭs-tĕr-ŌS-kō-pē

Lesson 4: Reproductive System Abbreviations

Memorize the abbreviations below.

CS or **C-section** means cesarean section. This is performed when the mother is having trouble delivering the fetus naturally and surgery is required.

GYN or gynecology, which means the study of women and treating female disorders.

G stands for *gravida* or pregnant.

LMP or last menstrual period.

OB-GYN stands for obstetrics and gynecology.

Pap or Papanicolaou smear. This is a test of cells from the cervix and vagina to detect the presence of CA.

Para is a word used to stand for number of births a woman has had. Para 2 means she has given birth twice; para 3 means she has given birth 3 times.

PMP means previous menstrual period.

STD or sexually transmitted disease. There are many STDs like: Gonorrhea; herpes; AIDS.

VD stands for venereal disease. Venereal means transmitted through sexual intercourse.



To aid in the memorization of this chapter's abbreviations, insert the DVD and click on Chapter 8, Lesson 4, The Reproductive System Abbreviations. Watch and listen as the abbreviations and their meanings appear on the screen.

Lesson 4 Activity 1: Using Abbreviations

Rewrite the medical report below using the correct abbreviations. Practice reading it aloud.

Medical Report

The patient is a 52 year old female with a history of having a sexually transmitted disease. When she was 18 she had a venereal disease that her doctor feared would make her

infertile. There was a lot of hemorrhaging and the gynecology department at the hospital had her under close observation. She recovered and now has given birth to 3 children, two by cesarean section. She has not been gravida since she was 35. Her previous menstrual period was 4 months ago, and her doctor thinks it was her last menstrual period. Her doctor is convinced that she has entered menopause. However, she has experienced abnormal bleeding at irregular intervals. She also has pain when urinating, which she fears is being caused by a venereal disease. A recent Papanicolaou smear detected some cancer cells on her cervix. Now she is scheduled for surgery to remove the cancer cells.

Lesson 5: Dialog Practice

Practice the dialog below with a partner. If no one is available, read both parts out loud several times.

Office Staff: Good morning Mr. Brown. You are right on time. How are you?

Mr. Brown: I'm a little nervous, but fine.

Office Staff: There is nothing to worry about; the doctor performs vasectomies every day. Let's get your vitals and then the doctor will see you. (Ten minutes later).

Dr. Casey: Hello Mr. Brown. I'm going to explain the procedure to you. First, we will shave your scrotum. Then I'll inject a local anesthetic and when you have no feeling in the testes I'll make a small incision and put 2 clamps on your vas deferens about a half inch apart. I'll remove that segment of the vas and then tie off both ends. It's really a simple excision.

Mr. Brown: Will I have much pain?

Dr. Casey: It will feel odd for a few days, but there shouldn't be much testalgia.

Mr. Brown: I'll be an outpatient, won't I?

Dr. Casey: Yes. 99% of the patients go home immediately after the operation. You can even drive yourself home.

Mr. Brown: Will I be completely sterile?

Dr. Casey: Yes. We will do a follow-up semen analysis in 6 weeks. You will ejaculate into a cup and we will do tests to make sure your semen can't fertilize an egg.

Mr. Brown: When can I have intercourse again?

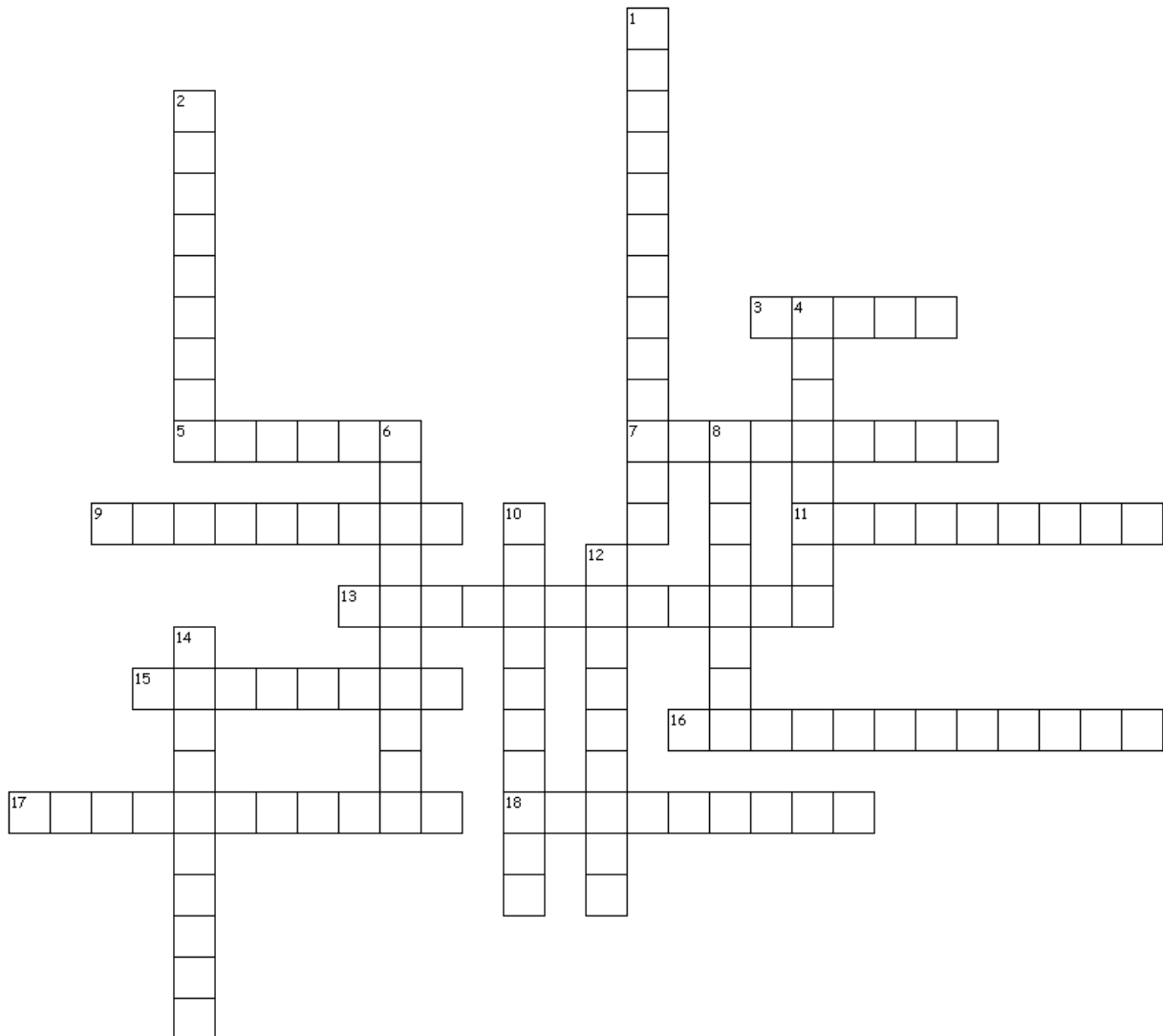
Dr. Casey: You should wait about 2 weeks and have several ejaculations before having unprotected sex if you are concerned about pregnancy.

Mr. Brown: My wife has had 2 C-sections and her GYN doctor advised no more pregnancies. That's why I'm having the vasectomy. I'm curious; will my testosterone level go down after the operation?

Dr. Casey: No, your sex drive will be the same. Quite often your sex life improves since contraceptives aren't an issue anymore if you're married. Well, if you don't have any more questions, let's get started.

Mr. Brown: No more questions doctor. I'm ready.

Lesson 6: The Reproductive System Crossword



Across

3. human from 2 months to birth
5. human from conception to 8 weeks
7. unable to reproduce
9. specialist in male urinary tract
11. external organs of reproduction
13. monthly discharge of blood
15. giving birth
16. steroid produced by testes
17. sexual contact
18. to eject or shoot fluid

Down

1. process of becoming pregnant
2. when menstruation stops
4. steroid secreted by ovaries
6. medical care for pregnant women
8. small body cavity or sac
10. patient doesn't stay at hospital
12. make something smooth or slippery
14. bursting forth of blood

Chapter 9: The Endocrine System

Lessons

1. The Endocrine System Vocabulary
2. The Endocrine System
3. Endocrine System Word Elements and Medical Terms
4. Endocrine System Abbreviations
5. Dialog Practice
6. The Endocrine System Crossword

Lesson 1: The Endocrine System Vocabulary



Using the glossary provided at the back of this book, define the words below.

Then, insert your DVD and from the menu click on Chapter 9, Lesson 1, The Endocrine System Vocabulary. Listen to the vocabulary words and repeat them after the instructor. To hear all the words in order click on the “Play All” button. If you prefer to hear the words individually, click on the word that you want to hear.

accelerate _____

adolescence _____

adrenaline _____

bloodstream _____

conversion _____

dependent _____

duct _____

epinephrine _____

extremity _____

gland _____

homeostasis _____

hypersecretion _____

metabolize _____

monitor _____

network _____

receptor _____

Lesson 1 Activity 1: Matching

Match the word with its meaning.

- | | |
|-------------------------|---|
| ____ 1. duct | a. cells that receive something |
| ____ 2. homeostasis | b. a limb of the body |
| ____ 3. gland | c. cells or an organ producing secretion |
| ____ 4. network | d. secreting too much body fluid |
| ____ 5. receptor | e. secreting too little body fluid |
| ____ 6. bloodstream | f. a hormone secreted in response to fear |
| ____ 7. metabolize | g. to progress, develop, or move faster |
| ____ 8. accelerate | h. to “teen” years |
| ____ 9. adolescence | i. keeping a stable physical condition |
| ____ 10. hypersecretion | j. a netlike combination of veins, vessels, or passages |
| ____ 11. hyposecretion | k. the blood flowing through the body |
| ____ 12. extremity | l. when food is changed into energy in the body |
| ____ 13. adrenaline | m. change in form or function |
| ____ 14. epinephrine | n. unable to live without help or drugs |
| ____ 15. conversion | o. adrenaline |
| ____ 16. monitor | p. watch, observe, check continuously |
| ____ 17. dependent | q. a tube or vessel |

Lesson 2: The Endocrine System



Refer to the DVD menu and click on Chapter 9, Lesson 2, The Endocrine System. Read along and listen as the instructor reads the text.

The endocrine system is made up of a network of ductless glands that produce hormones. These glands have a large supply of blood that allows the hormones they produce to enter the bloodstream. The hormones are produced by the glands and their effects take place at various other places in the body. The tissues or organs that react to the effects of the hormones are called *target tissues* or *target organs*. The hormones reach all the tissue of the body but only the target organs and tissues contain receptors that accept the particular hormones. Hormone secretion to a target organ is decided by the body's need for the hormone at any particular time. Too much or too little of the hormone causes many health problems, so it is important that the endocrine system functions well.

The major glands of the endocrine system are: the thymus; the pituitary gland; the thyroid gland; the pancreas; the adrenal glands; the pineal gland; and the gonads.

The thymus is a specialized organ in the immune system. It is located in front of the heart and behind the sternum or breastbone.

The pituitary gland is in the brain and is about the size of a pea. It secretes hormones regulating homeostasis. It is considered the “master gland” because it affects so much of the body’s functions. These functions include: growth; blood pressure; breast milk production; sex organ function; metabolizing food; and other functions.

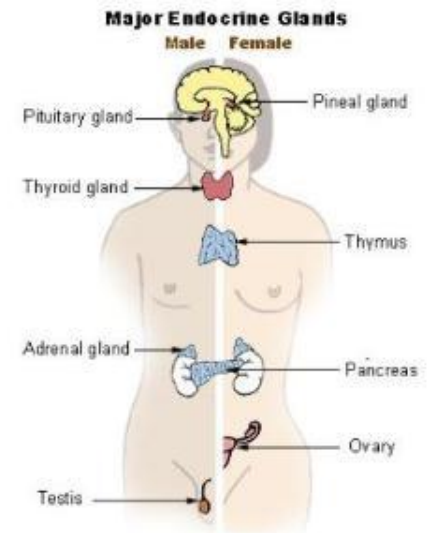
The thyroid gland is found in the neck and controls how quickly the body uses energy and makes proteins. It is controlled by the pituitary gland.

The pancreas is below the stomach and produces insulin and other hormones. It helps the cells receive sugar for energy. It also secretes enzymes that help break down food in the duodenum.

The adrenal glands sit on the top of the kidneys. They release hormones when the body or mind is confronted with stress.

The pineal gland is located in the center of the brain. It regulates sleeping cycles and hormonal changes during adolescence.

The gonads in males are the testes and in the females are the ovaries. In the testes sperm is produced and in the ovaries eggs are produced. When the eggs and sperm are joined fertilization occurs.



Lesson 2 Activity 1: Endocrine System Questions

Answer the questions below about the endocrine system.

1. What do the glands of the endocrine system produce?
2. How do hormones travel throughout the body?
3. What is the function of receptors?
4. What are target tissues and target organs?
5. Where is the thymus located?
6. Do both males and females have gonads?

7. Which gland regulates hormonal changes during adolescence?
8. Where is the thyroid gland located?
9. What gland helps us react to stress?
10. Which gland produces insulin?
11. Which gland is considered the “master gland”?
12. List 3 things that the pituitary gland controls.

- 1.

- 2.

- 3.

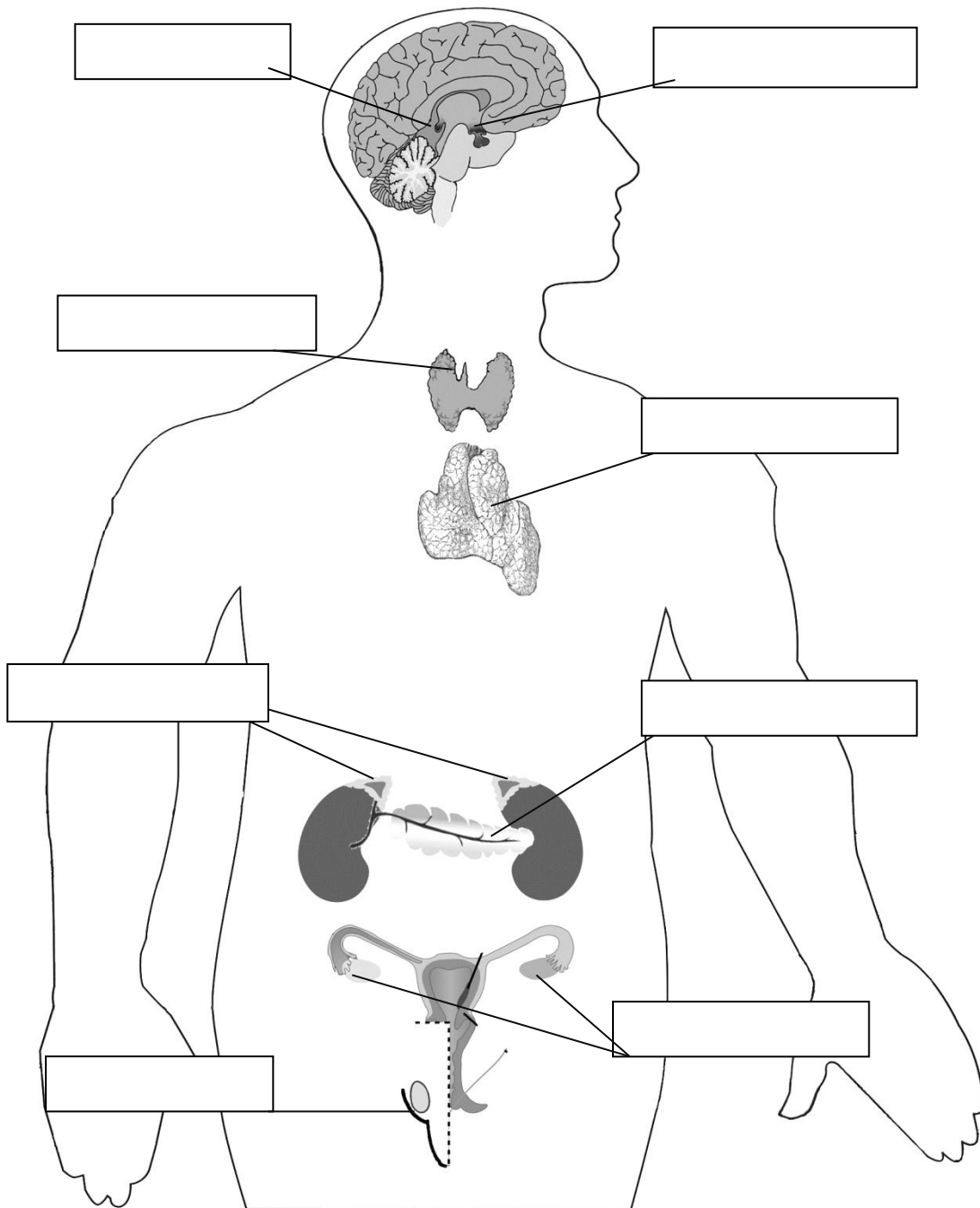
Lesson 2 Activity 2: Label and Color the Illustration

Directions: Using your medical terminology book or the internet as a reference, label the picture below with the correct endocrine system terms.

male testes
pancreas
pituitary gland

thymus gland
thyroid gland
adrenal glands

pineal gland
female ovaries



Lesson 3: Endocrine System Word Elements and Medical Terms

Word root	Meaning	Combining form
aden.....	gland	aden/o
gluc.....	sugar; sweetness	gluc/o
glyc.....	sugar; sweetness	glyc/o
pancreat.....	pancreas	pancreat/o
thym	thymus gland	thym/o
thyr	thyroid gland	thyr/o
thyroid.....	thyroid gland	thyroid/o
toxic	poison	toxic/o
radi.....	radiation; x-ray; radius bone.....	radi/o

Suffixes	Meaning
-dipsia	thirst
-gen	forming; production; origin
-genesis	forming; production; origin
-osis	abnormal condition; increase

Prefixes	Meaning
para-	near; beside; beyond
poly-.....	much; many; excessive
supra-.....	above; excessive; superior

Lesson 3 Activity 1: Define and Pronounce Medical Terms



In the activity below, explain what the words mean through your understanding of the word elements. Then, insert your DVD and from the menu click on Chapter 9, Lesson 3, Activity 1, Word Elements and Pronunciation. Listen to the instructor pronounce the medical term and then say the word.

Example: *gastr/ic, (GĀS-trīk) Pertaining to the stomach.*

aden/oma _____
ăd-ě-NŌ-mă

gluc/o/genesis _____
gloo-kō-JĚN-ě-sīs

pancreat/itis _____
păn-krē-ă-TĪ-tīs

para/thyroid/ectomy _____
păr-ă-thī-royd-Ėk-tō-mē

supra/ren/al _____
soo-pră-RĖ-năl

poly/dipsia _____
pōl-ē-DĪP-sē-ă

thyr/o/toxic/osis _____
thī-rō-tōks-ī-KŌ-sīs

radi/o/logist _____
rā-dē-Ōl-ō-jĭst

Lesson 4: Endocrine System Abbreviations

Memorize the abbreviations below.

BS means blood sugar. Most diabetic patients check their blood sugar level daily.

DM means diabetes mellitus. The disease is commonly referred to as diabetes.

ADA is an acronym for American Diabetes Association.

GH means growth hormone. Most growth hormones are produced in the pituitary gland.

IDDM means insulin dependent diabetes mellitus.

RAIU is the abbreviation for radioactive iodine uptake. This is a test that measures levels of radioactivity in the thyroid after the patient takes radioactive iodine.

po means by mouth.

IV means intravenously.



To aid in the memorization of this chapter's abbreviations, insert the DVD and click on Chapter 9, Lesson 4, The Endocrine System Abbreviations. Watch and listen as the abbreviations and their meanings appear on the screen.

Lesson 4 Activity 1: Using Abbreviations

Rewrite the conversation below using the correct abbreviations. Practice reading it aloud to a partner.

Information about Diabetes Mellitus

Diabetes mellitus (MEL-ih-tus), or simply, diabetes, is a group of diseases in which the patient has high blood glucose levels that result from defects in the body's ability to produce and/or use insulin. The American Diabetes Association estimates that almost 8%

Type 2 diabetes is the more common form of the disease. Diet and exercise play important roles in controlling type 2 diabetes. Medication can be taken by mouth and the patient usually checks his/her blood sugar daily. Type 2 diabetes is usually diagnosed in people over 40 years old. Obese people are at a high risk of developing type 2 diabetes.

This image shows a blank sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

Lesson 5: Dialog Practice

Practice the dialog below with a partner. If no one is available, read both parts out loud several times.

Office Staff: Good morning, Mrs. Hogan. Are you here to learn about how to check your blood glucose?

Mrs. Hogan: Yes. I was diagnosed with type 2 diabetes this morning. I really can't believe it. My aunt has the disease, but I've always been healthy and active. I'm so shocked.

Office Staff: Well, late onset diabetes is very common. With diet, exercise, and medication, it is very controllable. It is important to monitor your blood sugar. The most common extremity for testing is on the hand, using a different finger for each test. Always wash your hands or use an alcohol wipe before testing.

Mrs. Hogan: Is this going to hurt? Thinking about making myself bleed every day doesn't sound too appealing.

Office Staff: Some say it hurts a little, but others say hardly at all. Now that your hands are clean, turn on your meter by pressing this button. The number that comes up on the display box is the average reading of your last 20 tests. Now insert a test strip into the meter. When a picture of a test strip flashes in the display box, the meter is ready to test. Ok, now load a lancet or needle into the lancing device. Hold the device against the side of the fingertip and push the trigger. Then squeeze the fingertip until a drop of blood appears.

Mrs. Hogan: Well, that didn't hurt as much as I expected.

Office Staff: Good. Now just touch the end of the test strip to the drop of blood on your fingertip. Perfect. The number that appears in the display box is your current glucose level. Your reading right now is 284. That is high, but with the medication the doctor has prescribed and a chat with our nutrition expert, we'll get that number down.

Mrs. Hogan: What number should it be?

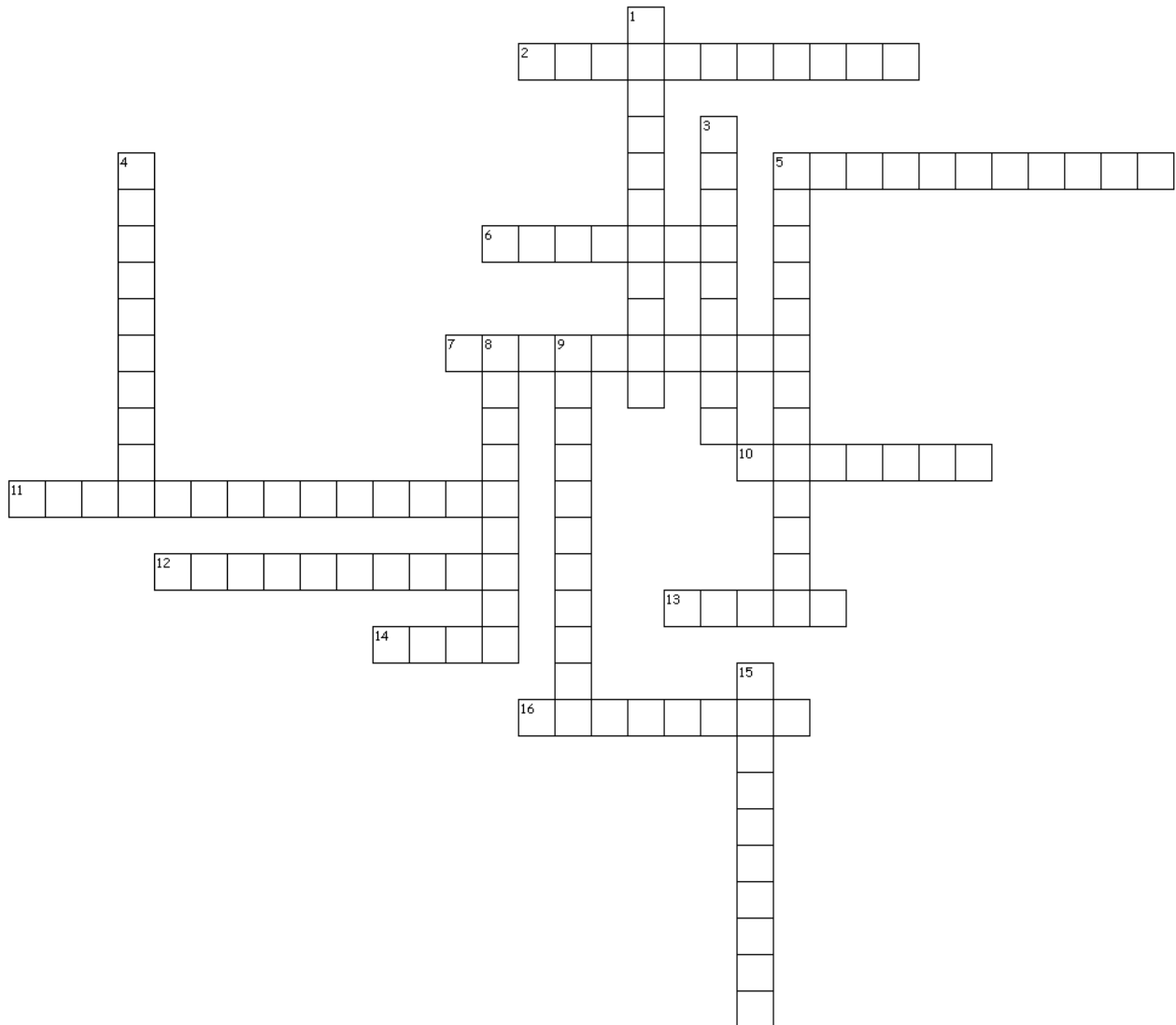
Office Staff: Between 90 and 110 is ideal; 80-130 is fine. And with medication, diet and exercise we should be seeing numbers in that range in a week or so.

Mrs. Hogan: How often do I have to test?

Office Staff: For now, before breakfast and before dinner. Record each test in this log book and bring it and your monitor to each doctor visit. You will also have to have blood work done every 3 months to keep an eye on everything. Well, you are ready for our nutrition expert now. Bye.

Mrs. Hogan: Thank you and goodbye.

Lesson 6: The Endocrine System Crossword



Across

- 2. teen years
- 5. keeping stable physical condition
- 6. watch, observe
- 7. hormone secreted due to fear
- 10. a netlike combination of veins
- 11. secrete too much
- 12. change food into energy
- 13. organ producing secretion
- 14. a tube or vessel
- 16. receives something

Down

- 1. blood flowing
- 3. arm or leg
- 4. move faster
- 5. secrete too little
- 8. can't live without help or drug
- 9. adrenaline
- 15. change in form or function

Chapter 10: The Nervous System

Lessons

1. The Nervous System Vocabulary
2. The Nervous System
3. Nervous System Word Elements and Medical Terms
4. Nervous System Abbreviations
5. Dialog Practice
6. The Nervous System Crossword

Lesson 1: The Nervous System Vocabulary



Using the glossary provided at the back of this book, define the words below.

Then, insert your DVD and from the menu click on Chapter 10, Lesson 1, The Nervous System Vocabulary. Listen to the vocabulary words and repeat them after the instructor. To hear all the words in order click on the “Play All” button. If you prefer to hear the words individually, click on the word that you want to hear.

aneurysm _____

atrophy _____

autonomic _____

bone marrow _____

cerebrum _____

convulsion _____

cranial _____

dementia _____

involuntary _____

meninges _____

palsy _____

paralysis _____

peripheral _____

psychosis _____

seizure _____

spinal _____

tremor _____

Lesson 1 Activity 1: Vocabulary Practice

Using the vocabulary from this chapter, fill in the blanks with the correct word.

1. Something that is not in the center or main part of something is called _____.
2. _____ means relating to the backbone.
3. If a body movement is involuntary it is _____.
4. If something is _____ it is pertaining to the skull.
5. When movement is not done by choice it is _____ movement.
6. The anterior and largest part of the brain is called the _____.
7. _____ is loss of movement and is common in cerebrospinal injuries.
8. The soft tissue found in the cavity of most bones is called _____.
9. A bulge or widening on a blood vessel wall is an _____.
10. _____ are three layers of membranes that surround and protect the brain and spinal cord.
11. Loss of intellectual capacity common in Alzheimer Disease is called _____.
12. A symptom of Parkinson's Disease is involuntary shaking or _____.

13. Bell _____ is facial paralysis or loss of muscle function on one side of the face.
14. If a person does not use their muscles the muscles will _____ or waste away.
15. A person having an epileptic seizure often experiences violent involuntary muscle contractions or _____.
16. _____ is a severe mental disorder in which the patient loses contact with reality.
17. During an epileptic _____ the patient experiences a sudden attack of spasms or convulsions.

Lesson 2: The Nervous System



Refer to the DVD menu and click on Chapter 10, Lesson 2, The Endocrine System. Read along and listen as the instructor reads the text.

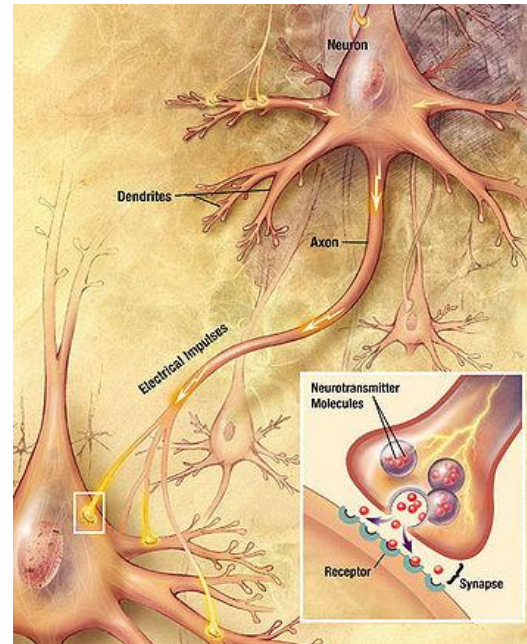
The nervous system is a very complex system in the body. It has many parts. The nervous system is divided into two main systems, the central nervous system (CNS) and the peripheral nervous system (PNS). The spinal cord and the brain make up the CNS. It is the control center for the body. The peripheral nervous system includes the cranial nerves (coming from the base of the skull), and the spinal nerves, (coming from the spinal cord). This system sends and receives messages from the body and sends them to the brain. Also, its autonomic nerves control involuntary functions of the internal organs.

The brain keeps the body in order. It helps to control all of the body systems and organs, keeping them working like they should. The brain also allows us to think, feel, remember and imagine.

The brain communicates with the rest of the body through the spinal cord and the nerves. These nerves inform the brain about what is going on in the body at all times. This system also gives instructions to all parts of the body about what to do and when to do it.

The nervous system is made up of two types of cells, *neurons* and *neuroglia*. Neurons are the foundation of the nervous system. They respond to physical and chemical stimuli, receive information through the senses, control the muscles and glands, and are responsible for learning and memory. Neuroglia perform the function of support and protection of the neurons. These cells wrap themselves around or line certain parts of the brain and spinal cord to protect them.

Nerves divide many times as they leave the spinal cord so that they may reach all parts of the body. The thickest nerve is about 1 inch thick and the thinnest is thinner than a human hair. Each nerve is a group of hundreds or thousands of neurons. The spinal cord runs down a tunnel of holes in your backbone or spine. The bones protect it from damage. The cord is a thick bundle of nerves, connecting your brain to the rest of your body.



Lesson 2 Activity 1: The Nervous System

Answer the questions below about the Nervous System

1. What are the two main systems of the nervous system?
2. The spinal cord and the brain are part of what system?
3. Where are the cranial nerves?
4. What controls involuntary functions of the internal organs?
5. What controls all the body systems and organs?
6. Through what does the brain communicate with the rest of the body?
7. What 2 types of cells make up the nervous system?
8. Which type cell is the foundation of the nervous system?

9. Name three things neurons do.

1.

2.

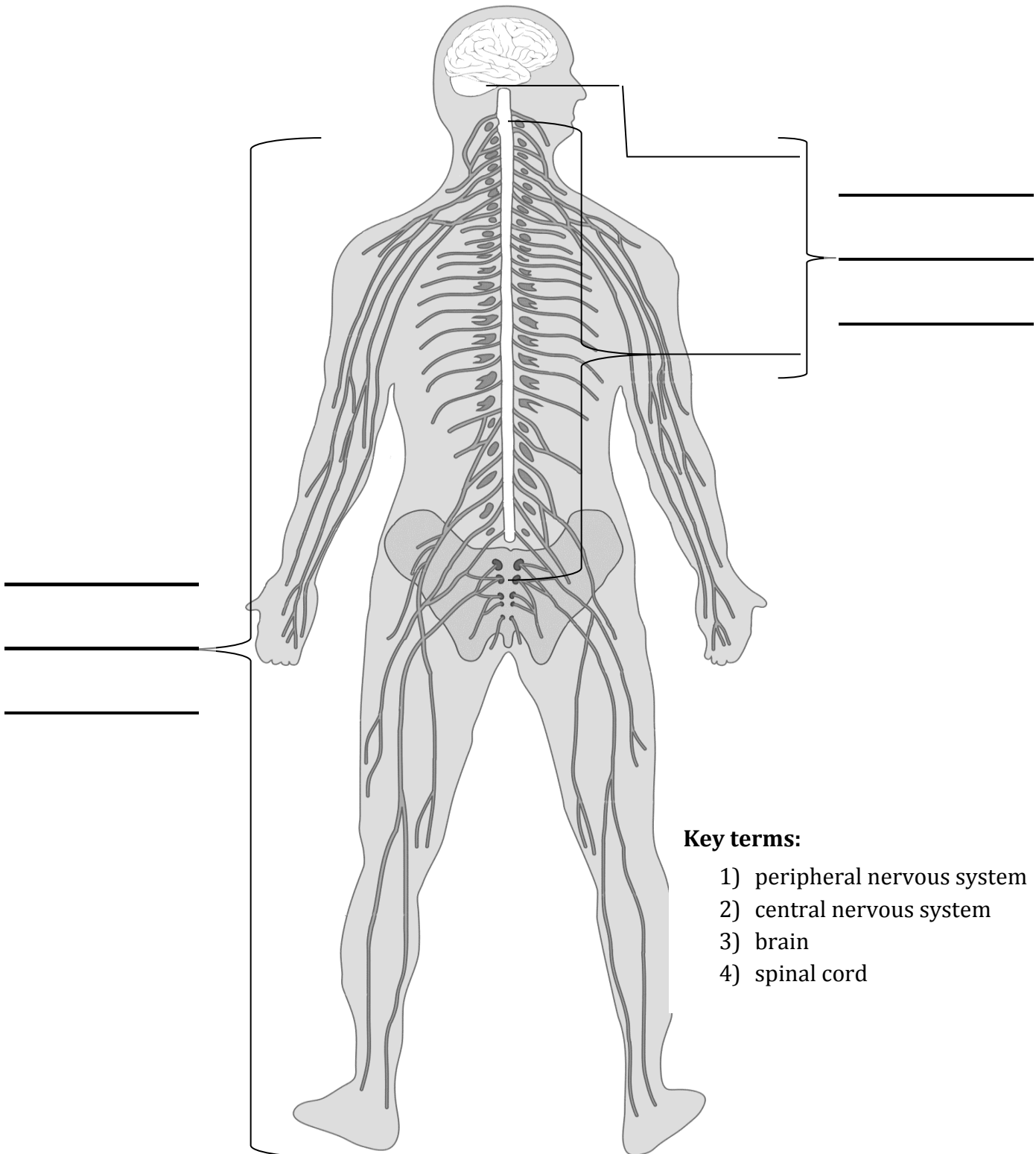
3.

10. What are the two main functions of neuroglia?

11. The spine protects what?

Lesson 2 Activity 2: Color and Label the Illustration

Directions: Using your medical terminology book or the internet as a reference, label the chart. Color the central nervous system red and the peripheral nervous system blue.



Lesson 3: Nervous System Word Elements and Medical Terms

Word root	Meaning	Combining form
cerebr.....	cerebrum.....	cerebr/o
encephal.....	brain.....	encephal/o
mening.....	meninges.....	mening/o
meningi	meninges.....	meningi/o
myel.....	bone marrow; spinal cord.....	myel/o
neur	nerve.....	neur/o
Suffixes	Meaning	
-paresis.....	partial paralysis	
-plegia	paralysis	
Prefix	Meaning	
hemi-	one half	

Lesson 3 Activity 1: Define and Pronounce Medical Terms



In the activity below, explain what the words mean through your understanding of the word elements. Then, insert your DVD and from the menu click on Chapter 10, Lesson 3, Activity 1, Word Elements and Pronunciation. Listen to the instructor pronounce the medical term and then say the word.

Example: *gastr/ic, (GĀS-trīk) Pertaining to the stomach.*

hemi/paresis _____
hēm-ē-pār-Ē-sīs

encephalitis _____
ĕn-sĕf-ă-LĪ-tīs

myel/algia _____
mī-ĕl-Āl-jĕ-ă

mening/o/cele _____
mĕn-ĪN-jō-sĕl

cerebr/al _____
sĕr-Ē-brăl

neur/o/logist _____
nū-RŌL-ă-jĭst

meningi/oma _____
mĕn-ĭn-jĕ-Ō-mă

Lesson 4: Nervous System Abbreviations

Memorize the abbreviations below.

CNS means Central Nervous System.

PNS means Peripheral Nervous System.



To aid in the memorization of this chapter's abbreviations, insert the DVD and click on Chapter 10, Lesson 4, The Nervous System Abbreviations. Watch and listen as the abbreviations and their meanings appear on the screen.

Lesson 5: Dialog Practice

Practice the dialog below with a partner. If no one is available, read both parts out loud several times.

Scene: In the waiting room at Dr. Simpson's office, a patient waiting to see the doctor suddenly drops to the floor. She has uncontrollable muscle spasms and begins to drool through her clenched teeth. There are three other patients in the waiting room. One of them, Mr. Kenyan, tries to hold her arms down as an office staff person approaches the scene.

Office Staff: Mr. Kenyan, let her go and stand back.

Mr. Kenyan: Ok, but I'm trying to keep her from hurting herself.

Office Staff: We'll just move the furniture away from her so she doesn't bang into it. She should be ok in a few minutes. Please get me that sweater on the chair over there. I'll fold it and put it under her head.

Mr. Kenyan: Sure. Shouldn't we put something in her mouth so she doesn't swallow her tongue?

Office Staff: No. People having a seizure don't swallow their tongues. Never put anything in their mouths. They have involuntary movement, convulsions, and may black out, but they don't swallow their tongues. Everyone please move away and sit down. She will be fine. The doctor is here if the seizure lasts more than a few minutes.

Mr. Kenyan: She seems to be coming out of it already. Maybe we should give her some water.

Office Staff: We have to wait until she is fully alert for that. I think it is almost over, too. Help me roll her on her side. She may throw-up and we don't want her to inhale any of the vomit. There is a small waste basket by the door, please get it for me.

Mr. Kenyan: Sure. Is she going to be alright?

Office Staff: Yes. (To the patient). Ms. Lane. Everything is fine. You are at Dr. Simpson's office and you had a seizure. How do you feel? Would you like to sit up?

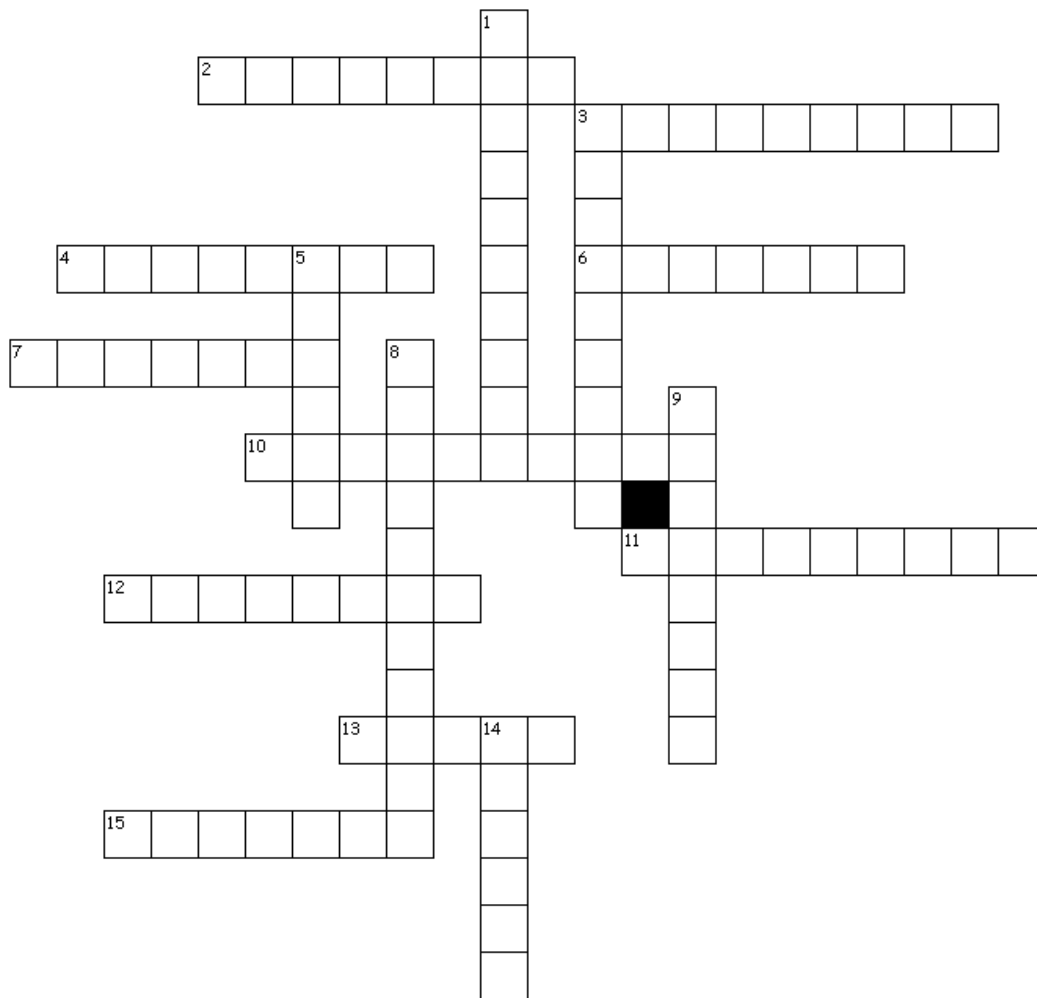
Ms. Lane: Yes, please. I feel a little nauseous but I don't think I will throw-up. I was nauseous and a little dizzy before it started. I should have recognized the warning signs and asked to see the doctor immediately.

Dr. Simpson: What's going on here?

Office Staff: Ms. Lane had a seizure. She can walk now; I'll take her to room 2B and wait with her until you are finished with Mr. Dora.

Dr. Simpson: That would be great. I'll be there in 2 minutes.

Lesson 6: The Nervous System Crossword



Across

2. membranes that protect the brain
3. loss of movement
4. loss of intellect
6. skull
7. sudden attack of convulsions
10. violent contraction
11. involuntary
12. largest part of the brain
13. partial or complete loss of motor function
15. wasting away of muscle or tissue

Down

1. outer part of something
3. severe mental disorder
5. involuntary shaking
8. not by choice
9. bulge in blood vessel wall
14. backbone

Chapter 11: The Musculoskeletal System

Lessons

1. The Musculoskeletal System Vocabulary
2. The Musculoskeletal System
3. Musculoskeletal System Word Elements and Medical Terms
4. Musculoskeletal System Abbreviations
5. Dialog Practice
6. The Musculoskeletal System Crossword

Lesson 1: The Musculoskeletal System Vocabulary



Using the glossary provided at the back of this book, define the words below.

Then, insert your DVD and from the menu click on Chapter 11, Lesson 1, The Musculoskeletal System Vocabulary. Listen to the vocabulary words and repeat them after the instructor. To hear all the words in order click on the “Play All” button. If you prefer to hear the words individually, click on the word that you want to hear.

biceps brachii _____

biceps femoris _____

carpals _____

cartilage _____

clavicle _____

cranium _____

deltoid _____

femur _____

fibula _____

gastrocnemius _____

gluteus maximus _____

humerus _____

joint _____

ligament _____

mandible _____

patella _____

pelvic girdle _____

phalanges (foot) _____

phalanges (hand) _____

radius _____

rectus abdominus _____

ribs _____

scapula _____

spinal column _____

sternum _____

tarsals _____

tendon _____

tibia _____
trapezius _____
triceps brachii _____
ulna _____

Lesson 1 Activity 1: Matching

Match the word with its meaning.

- | | |
|---------------------------|---|
| ____ 1. ribs | a. connects muscle to bone |
| ____ 2. tibia | b. hamstring muscle; back of thigh |
| ____ 3. tendon | c. knee cap |
| ____ 4. patella | d. muscle of the upper back |
| ____ 5. sternum | e. joins bone to bone |
| ____ 6. spinal column | f. butt |
| ____ 7. humerus | g. shoulder blade |
| ____ 8. trapezius | h. keeps bone ends from rubbing together |
| ____ 9. ligament | i. upper arm bone |
| ____ 10. clavical | j. shin; larger lower leg bone |
| ____ 11. ulna | k. breast bone; protects the heart |
| ____ 12. femur | l. calf muscle; back of lower leg |
| ____ 13. cranium | m. bone behind the tibia in the lower leg |
| ____ 14. radius | n. upper leg bone; largest bone in body |
| ____ 15. gluteus maximus | o. bones of the fingers |
| ____ 16. phalanges (hand) | p. shoulder muscle |
| ____ 17. scapula | q. protects the organs of the chest |
| ____ 18. biceps femoris | r. backbone |
| ____ 19. gastrocnemius | s. collarbone |
| ____ 20. fibula | t. skull; protects the brain |
| ____ 21. cartilage | u. shorter of the 2 bones of the forearm |
| ____ 22. deltoid | v. longer of the 2 bones of the forearm |

Lesson 2: The Musculoskeletal System

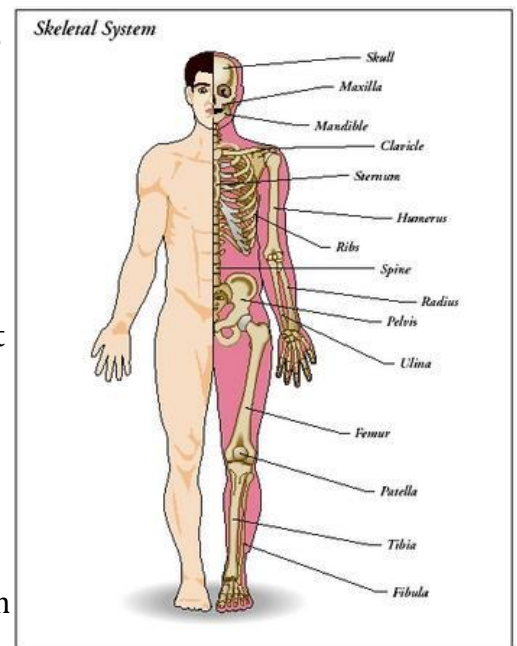


Refer to the DVD menu and click on Chapter 11, Lesson 2, The Musculoskeletal System. Read along and listen as the instructor reads the text.

The musculoskeletal system gives humans the ability to move using the muscular and skeletal systems. The musculoskeletal system provides form, support, stability, and movement to the body. It is made up of the body's bones (the skeleton), muscles, cartilage, tendons, ligaments, joints, and other connective tissue (the tissue that supports and binds tissues and organs together). Muscles keep bones in place and also play a role in movement of the bones. Cartilage is a flexible connective tissue that prevents the bone ends from rubbing together. Tendons are tough bands of fibrous connective tissue that usually connect muscles to bones. Ligaments are also tough tissues that usually connect bones to bones.

The musculoskeletal system's primary functions include supporting the body, allowing motion, and protecting vital organs. The skeletal portion of the system serves as the main storage system for calcium and phosphorus and contains critical components of the hematopoietic system, in which blood is produced. The bones provide the stability to a body the same way iron rods support concrete construction.

To allow motion, different bones are connected by joints. A joint is where two bones meet. Cartilage between the bones prevents the bone ends from rubbing directly on each other. Muscles contract (bunch up) to move the bone attached at a joint. Muscles do much more than move the bones. They also provide motion that eliminates food through the digestive system, push blood throughout the body, and contract the bladder to eliminate urine.



Lesson 2 Activity 1: Musculoskeletal System Questions

Answer the questions below about the Musculoskeletal System.

1. List 4 things that the musculoskeletal system provides for the body.

1.

2.

3.

4.

2. What does cartilage do?
3. What is the fibrous connective tissue that joins bones to bones?
4. What do tendons join?
5. What is produced in the hematopoietic system?
6. Where does the body store calcium and phosphorus?
7. We call the place where 2 bones meet a _____.
8. What do muscles do to move bones?
9. List 3 things that muscles do.
 - 1.
 - 2.
 - 3.

Lesson 2 Activity 2: Label and Color the Illustration

Label and color the picture of the Skeletal System.

scapula

ribs

mandible

pelvic girdle

radius

sternum

ulna

phalanges hand

phalanges foot

fibula

tarsals

patella

femur

carpals

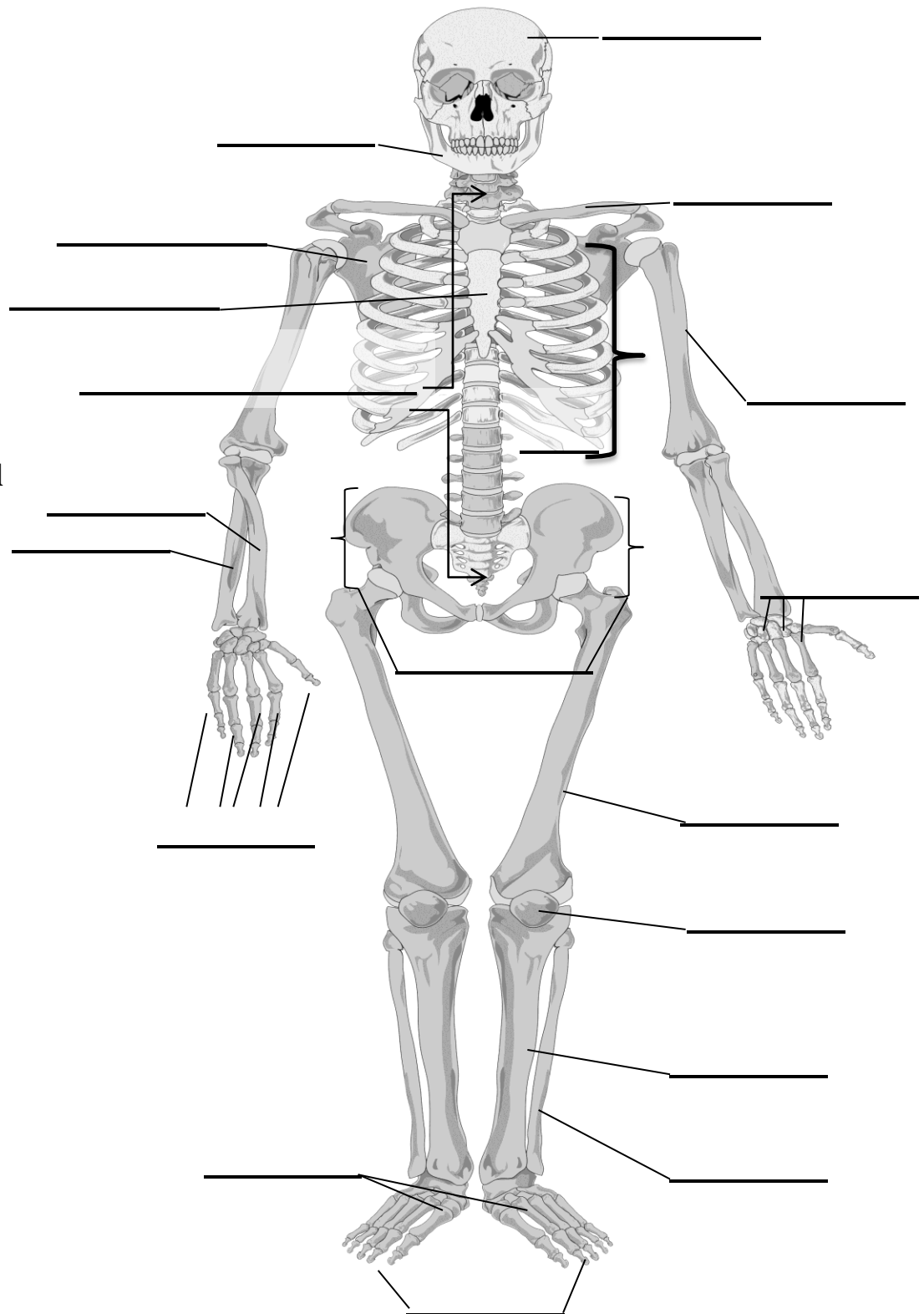
spinal column

humerus

clavicle

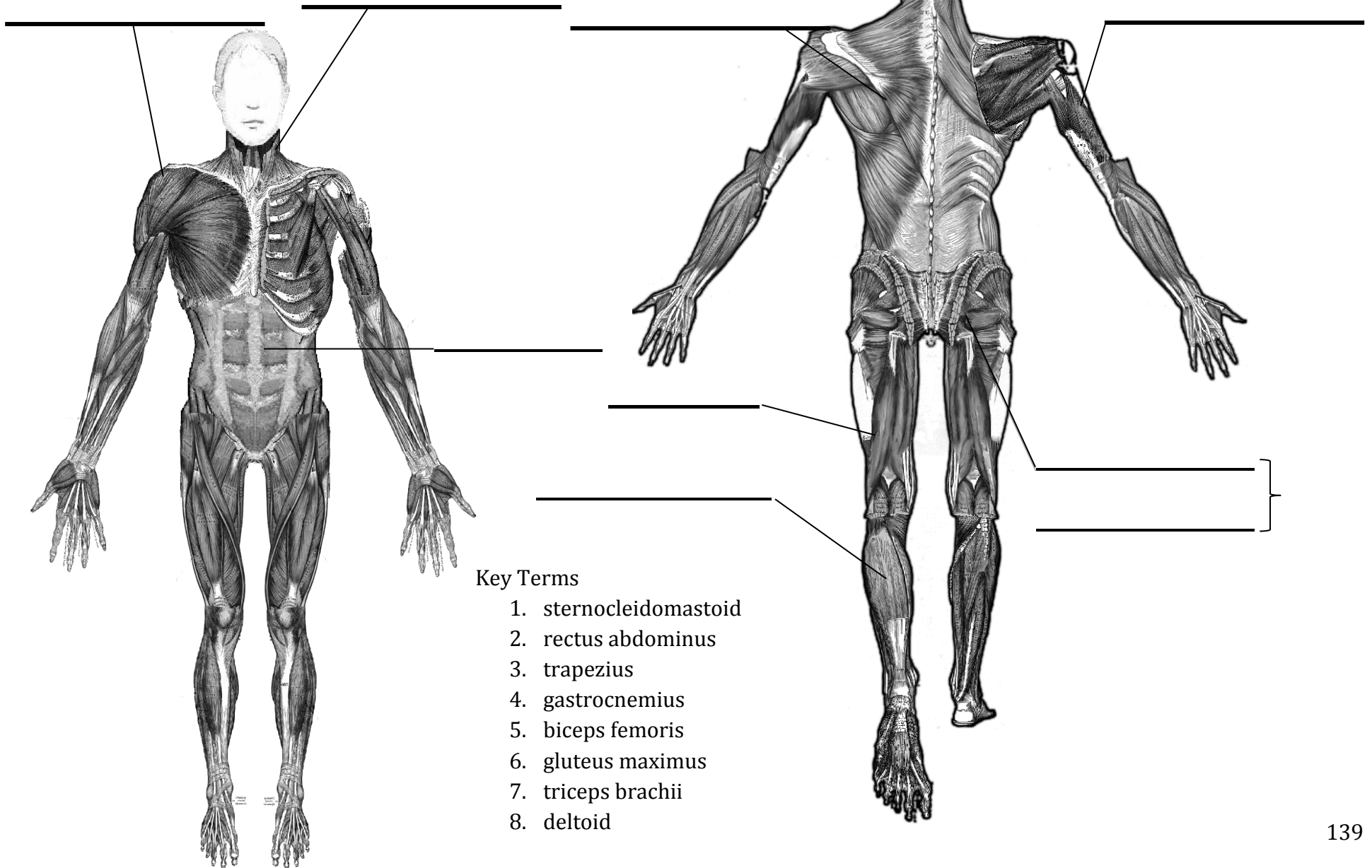
cranium

tibia



Lesson 2 Activity 3: Label the Illustration

Using your medical terminology book or the internet as a reference, label the muscular system with key terms below.



Lesson 3: Musculoskeletal System Word Elements and Medical Terms

Word root	Meaning	Combining form
arthr	joint	arthr/o
chondr	cartilage	chondr/o
my.....	muscle	my/o
oste	bone.....	oste/o
tend.....	tendon	tend/o

Suffixes	Meaning
-cyte	cell
-malacia.....	softening

Prefix	Meaning
inter-	between

Lesson 3 Activity 1: Define and Pronounce Medical Terms



In the activity below explain what the words mean through your understanding of the word elements. Then, insert your DVD and from the menu click on Chapter 11, Lesson 3, Activity 1, Word Elements and Pronunciation. Listen to the instructor pronounce the medical term and then say the word.

Example: *gastr/ic* *Pertaining to the stomach*

arthr/itis _____
ăr-THRĪ-tīs

chondr/o/cyte _____
KŌN-drō-sīt

tend/o/plasty _____
TĔN-dō-plās-tē

my/o/athy _____
mī-ŌP-ă-thē

oste/o/malacia _____
ōs-tē-ō-mă-LĀ-shē-ă

inter/vertebral _____
în-těr-VĚRT-ě-brěl

my/oma _____
mī-Ō-mă

arthr/o/dynia _____
ăr-thrō-DĪN-ē-ă

Lesson 4: Musculoskeletal System Abbreviations

Memorize the abbreviations below.

AE means above the elbow.

AK means above the knee.

BE means below the elbow.

BK means below the knee.

CTS is the abbreviation for carpal tunnel syndrome. CTS is pain or numbness due to pressure on the median nerve in the wrist canal.

Fx is the abbreviation for a fracture of a bone.

IM is the abbreviation for intramuscular. Intramuscular means located or occurring within a muscle.

RA is the abbreviation for rheumatoid arthritis. RA is a chronic disease attacking the joints and resulting in crippling deformities.



To aid in the memorization of this chapter's abbreviations, insert the DVD and click on Chapter 11, Lesson 4, The Musculoskeletal System Abbreviations. Watch and listen as the abbreviations and their meanings appear on the screen.

Lesson 4 Activity 1: Abbreviation Practice

Rewrite the medical record below using the correct abbreviations. Practice reading it aloud with a partner.

Medical Record

Patient: Laura Hinman

Ms. Hinman is 68 years old and has suffered from carpal tunnel syndrome and rheumatoid arthritis for the last 7 years. The carpal tunnel syndrome is responsible for numbness on her right side below the elbow, and she experiences acute pain above the elbow with movement. In 2006 she was in an automobile accident and experienced a femur fracture on her left leg. Currently she has circulation problems below the knee on that side and

constant pain above the knee. Pain medication gives her a few hours of relief daily, but when the medication wears off, the pain returns.

Lesson 5: Dialog Practice

Practice the dialog below with a partner. If no one is available, read both parts out loud several times.

Office Staff: Mr. Thompson in room 4B is your next patient, Dr. Jones.

Dr. Jones: Has he started therapy yet?

Office Staff: Not yet. Many bones were fractured when he hit a tree skiing. His left femur and patella, and the humerus on that side, too, all were fractured. The x-ray also showed a hairline Fx of the clavical.

Dr. Jones: Yes, it was a serious accident. I'm concerned about the circulation BK. Has his sense of touch returned on his left side BK and BE?

Office Staff: Yes, but only slightly. There is still a lot of pain at the site of the fractures. The lesion in his gastrocnemius is healing nicely; we can probably pull the sutures in a few days.

Dr. Jones: Good. The MRI showed some ligament damage in the knee, too. It was to be expected with the mechanism of injury. The ACL is almost completely torn but I want the bones to heal and the swelling to go down before addressing those issues.

Office Staff: The deltoid had a lesion that required sutures, too, and there doesn't seem to be any infection. It seems to be healing nicely.

Dr. Jones: That's what we were hoping. I'll go look in on him now. Who is after Mr. Thompson?

Office Staff: Mrs. Risolio in room 6C. She fell in her kitchen and fractured her pelvic girdle on her right side. She put her arm out to break the fall and has a clavicle Fx too.

Dr. Jones: At 84 years old bones break easily. Is she still living alone?

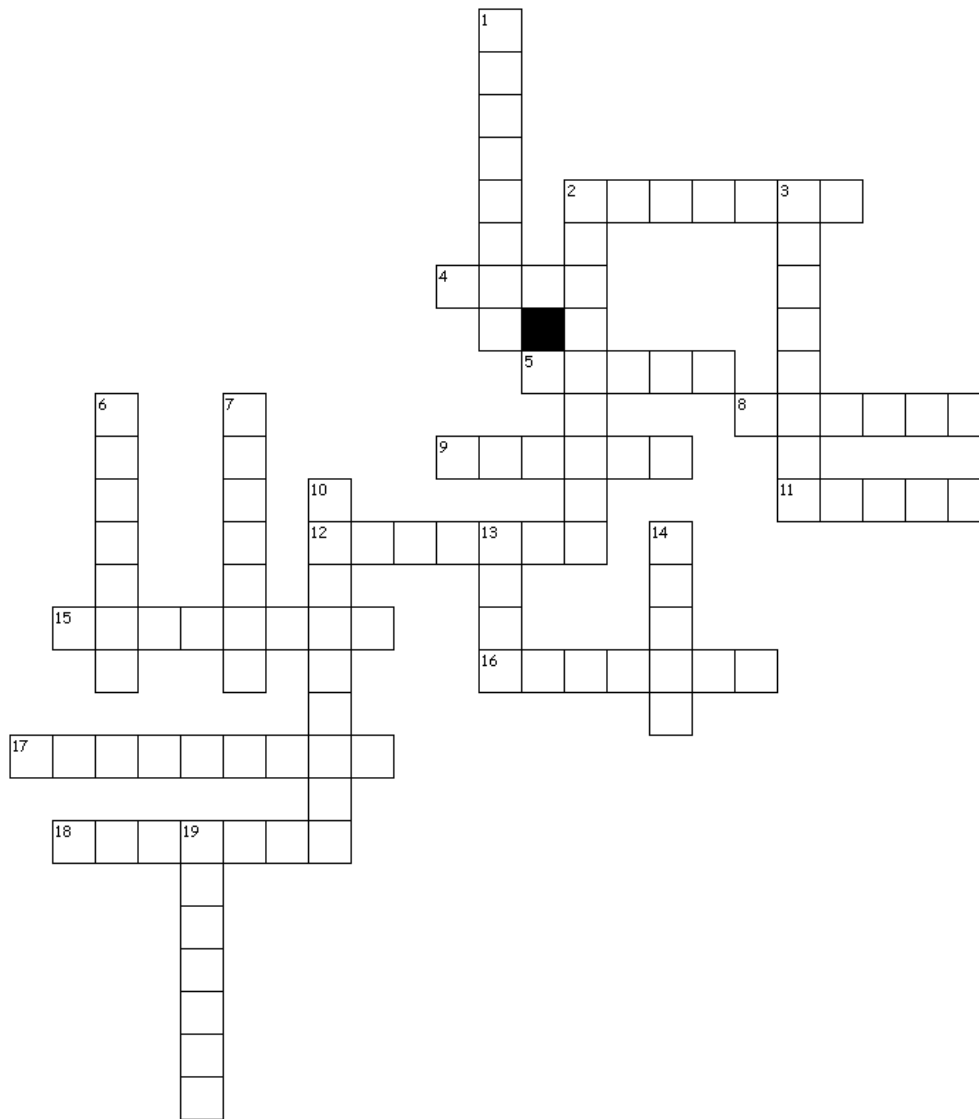
Office Staff: Her daughter is living with her now. She wants to take her home as soon as possible.

Dr. Jones: I think we can release her today. The x-ray of the pelvic girdle showed only a small fracture. I'm actually more concerned about the clavicle.

Office Staff: The x-ray showed an incomplete Fx so if she can stay on her feet and keep it immobile it should heal. I'll get her vitals while you see Mr. Thompson.

Dr. Jones: Thanks. I'll be there ASAP.

Lesson 6: The Musculoskeletal System Crossword



Across

2. bones of the foot
4. longer bone of the forearm
5. thigh bone
8. joins muscle to bone
9. shorter bone of forearm
11. shin
12. upper arm bone
15. collarbone
16. breastbone
17. cushion between bones
18. bones of the hand

Down

1. jaw
2. muscle near scapula
3. joins bone to bone
6. shoulder blade
7. shoulder muscle
10. toes and fingers
13. protect the organs of the chest
14. where bones meet
19. kneecap

Chapter 12: The Eye and the Ear

Lessons

1. The Eye and the Ear Vocabulary
2. The Eye and the Ear
3. Eye and the Ear Word Elements and Medical Terms
4. Eye and the Ear Abbreviations
5. Dialog Practice
6. The Eye and the Ear Crossword

Lesson 1: The Eye and the Ear Vocabulary



Using the glossary provided at the back of this book, define the words below.

Then, insert your DVD and from the menu click on Chapter 12, Lesson 1, The Eye and the Ear Vocabulary. Listen to the vocabulary words and repeat them after the instructor. To hear all the words in order click on the “Play All” button. If you prefer to hear the words individually, click on the word that you want to hear.

auditory _____

auricle _____

constrict _____

cornea _____

ear canal _____

equilibrium _____

incus _____

iris _____

laser _____

malleus _____

optic nerve _____

pupil _____

retina _____

sclera _____

semicircular canals _____

stapes _____

tympanic membrane _____

Lesson 1 Activity 1: Matching

Match the word with its meaning.

- | | |
|-----------------------------|--|
| ____ 1. malleus | a. sends signals from the inner ear to the brain |
| ____ incus | b. protects the eye from injury |
| ____ stapes | c. responsible for balance |
| ____ 2. iris | d. lines the posterior 2/3 of the eyeball |
| ____ 3. cochlea | e. colored part of the eye |
| ____ 4. sclera | f. tube from outer ear to middle ear |
| ____ 5. retina | g. bones of the middle ear |
| ____ 6. tympanic membrane | h. outer part of the ear |
| ____ 7. semicircular canals | i. eardrum |
| ____ 8. optic nerve | j. sends signals from the retina to the brain |
| ____ 9. cornea | k. white part of the eyeball |
| ____ 10. pupil | l. black circle in the center of the iris |
| ____ 11. auricle | |
| ____ 12. ear canal | |

Lesson 2: The Eye



Refer to the DVD menu and click on Chapter 12, Lesson 2, The Eye and the Ear.

Read along and listen as the instructor reads the text.

The eyes and their accessory body parts are the receptor organs that allow us to see. They provide us with information about our surroundings and help us to learn by reading printed material. The eyes detect stimuli in the environment and send the information to the brain to be processed.

The white part of the eye is called **sclera**. It is made of connective tissue and covers most of the eyeball. The **cornea** is a transparent, domed part of the sclera on the anterior part of the eye. The cornea protects the front part of the eye from injury and refracts light rays, helping the eye focus. Behind the cornea are the **iris** and **pupil**. The iris is the colorful part of the eye. The iris has muscles attached to it that change its shape. This permits the iris to control how much light goes to the pupil. The pupil is the black circle in the center of the iris. It controls how much light enters the eye. In bright light the pupil gets smaller or constricts; and in dim light the



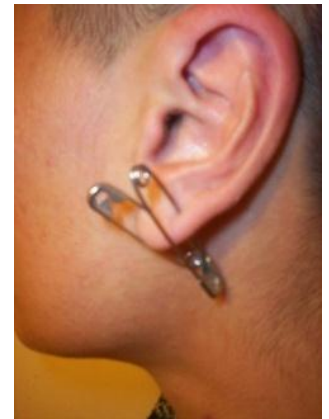
pupil dilates or gets bigger, allowing more light to enter the eye. The light then goes through the eye and hits the **retina**, which lines the posterior two thirds of the eyeball. The retina receives the light and changes it into nerve signals. It then transmits the nerve signals to the **optic nerve** at the back of the eye, which then sends the signals to the brain to be interpreted.

Lesson 2: The Ear

The ear is made up of three different sections: the outer ear; the middle ear; and the inner ear. The three parts work together so we can hear.

The part of the ear that people can see is called the **auricle**. It is shaped the way it is to catch sound vibrations and send them through the **ear canal** to the **tympanic membrane** or eardrum. When sound vibrations hit the tympanic membrane it vibrates and in turn causes the three bones of the middle ear to vibrate. The three bones of the middle ear are the **malleus**, **incus**, and **stapes**. The sound then travels to the inner ear as a vibration and enters the **cochlea**. The cochlea is lined with tiny hairs that are moved by the vibrations, causing nerve signals that the brain interprets as sound.

The three **semicircular canals** of the inner ear are filled with liquid and are responsible for our sense of balance.



Lesson 2 Activity 1: Eye and Ear Questions

Answer the questions below about the eyes and ears.

1. What are the three auditory bones of the middle ear?
 1. _____
 2. _____
 3. _____
2. The _____ is the white outer layer of the eyeball.
3. The part of the eyeball that covers the iris and pupil is the _____.
4. The external ear is called the _____.
5. The _____ is another name for the eardrum.

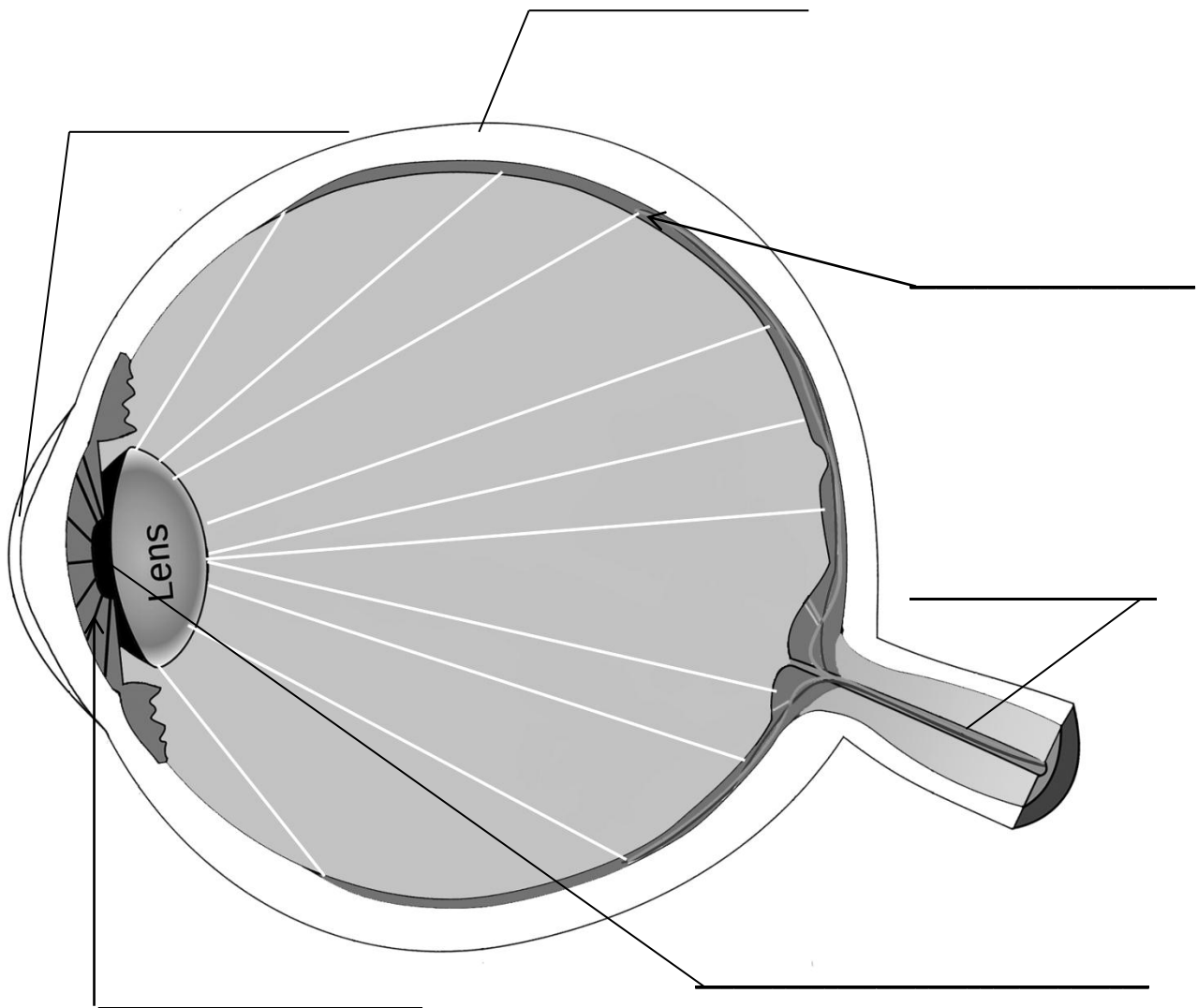
6. The _____ sends visual information from the retina to the brain.
7. _____ means pertaining to hearing.
8. The _____ controls the amount of light entering the eye.
9. The colored portion of the eye is the _____.
10. The _____ perceives light and colors and is responsible for image formation.
11. When the pupil gets smaller and allows less light to enter the eye it _____.

Lesson 2 Activity 2: Label and Color the Illustration

Using your medical terminology book or the internet as a reference label the picture below with terms of the eye.

sclera
cornea
iris

retina
pupil
optic nerve



Lesson 2 Activity 3: Label and Color the Illustration

Using your medical terminology book or the internet as a reference label the picture below with terms pertaining to the ear.

auricle

semicircular canals

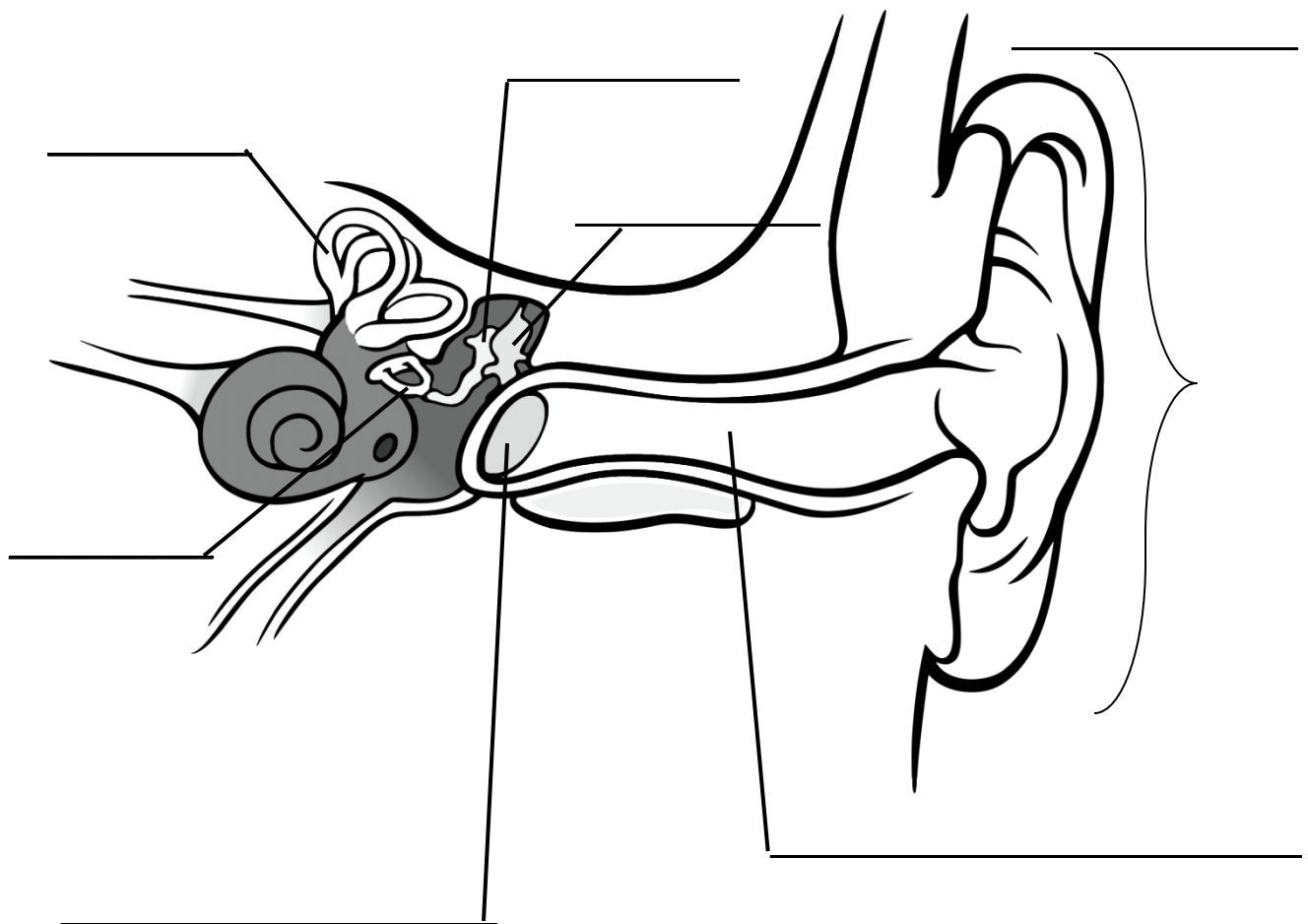
ear canal

malleus

tympanic membrane

stapes

incus



Lesson 3: Eye and Ear Word Elements and Medical Terms

Word root	Meaning	Combining form
acous	hearing	acous/o
audi	hearing	audi/o
ocul	eye	ocul/o
ophthalm	eye	ophthalm/o
opt	eye; vision	opt/o
ot	ear	ot/o

Suffixes	Meaning
-acusis	hearing
-opia	vision
-opsia	vision

Prefixes	Meaning
dipl-	double
intra-	in; within

Lesson 3 Activity 1: Define and Pronounce Medical Terms



In the activity below, explain what the words mean through your understanding of the word elements. Then, insert your DVD and from the menu click on Chapter 12, Lesson 3, Activity 1, Word Elements and Pronunciation. Listen to the instructor pronounce the medical term and then say the word.

Example: *gastr/ic* Pertaining to the stomach

ot/o/plasty _____
Ō-tuh-plās-tē

an/acusis _____
ăn-ă-KŪ-sīs

intra/ocul/ar _____
în-tră-Ŏk-ŭ-lăr

ophthalm/ectomy _____
ŏf-thăl-MĚK-tō-mē

dipl/opia _____
dĭp-LŌ-pē-ă

acous/tic _____
ă-KOOS-tĭc

ot/algia _____
ō-TĂL-jē-ă

audi/o/logy _____
aw-dē-ŎL-ă-jē

Lesson 4: Eye and Ear Abbreviations

Memorize the abbreviations below.

AD means right ear.

AS means left ear.

AU means both ears.

HOH means hard of hearing. (Almost deaf).

OD means right eye.

OS means left eye.

OU means both eyes.

ENT means ear, nose, and throat.



To aid in the memorization of this chapter's abbreviations, insert the DVD and click on Chapter 12, Lesson 4, Eye and Ear Abbreviations. Watch and listen as the abbreviations and their meanings appear on the screen.

Lesson 4 Activity 1: Using Abbreviations

Rewrite the paragraph below using the correct abbreviations. Practice reading it aloud with a partner.

Swimmer's Ear and Conjunctivitis

Many surfers in California suffer from swimmer's ear. Due to constant exposure to cold water and wind bones grow in the ear canal to keep the inner ear warm. The condition is usually worse in the right ear than in the left ear, but both ears commonly require surgery to remove the bones. Most surfers in California face west while waiting for a wave to catch. Therefore their right ear is directly exposed to the prevailing west wind. Without treatment

the patient usually becomes hard of hearing. The right eye is also more at risk than the left eye for conjunctivitis complications for the same reason. Bacteria from water pollution will cause inflammation in both eyes, but the right eye, with the added irritation of the wind, is usually more affected.

Lesson 5: Dialog Practice

Practice the dialog below with a partner. If no one is available, read both parts out loud several times.

Mrs. Foster is visiting her ophthalmologist.

Office Staff: Hello, Mrs. Foster. Please fill out this form and we'll start your eye exam in a moment.

Mrs. Foster: Ok. (A few minutes later). My eyes were fine this morning, but lately lines that I know are straight appear wavy.

Office Staff: Is your center of vision distorted?

Mrs. Foster: Yes, at times when I look straight ahead my peripheral vision seems fine but things in front of me are blurred.

Office Staff: Well, be sure to tell the doctor that information. Now I want you to cover your left eye and look at this chart. Hold it about as far away as you would a book you are reading. This is called an Amsler grid. Can you see the black dot at the center of the grid?

Mrs. Foster: Yes, it is a small dot at the very center of the chart.

Office Staff: Are the lines all straight or are some wavy?

Mrs. Foster: They look straight.

Office Staff: Ok. Now cover your right eye and tell me what you see.

Mrs. Foster: Oh dear, it is different. Towards the center of the grid the lines get a bit wavy. The dot has a bit of a black cloud around it.

Office Staff: Well, it appears that you might have macular degeneration in your left eye. Of course we have to do more tests.

Mrs. Foster: Is there a cure for that?

Office Staff: There is no outright cure for macular degeneration, but some treatments may delay its progression and even improve your vision in that eye. We have caught it early; that really improves your chances of stopping its progression.

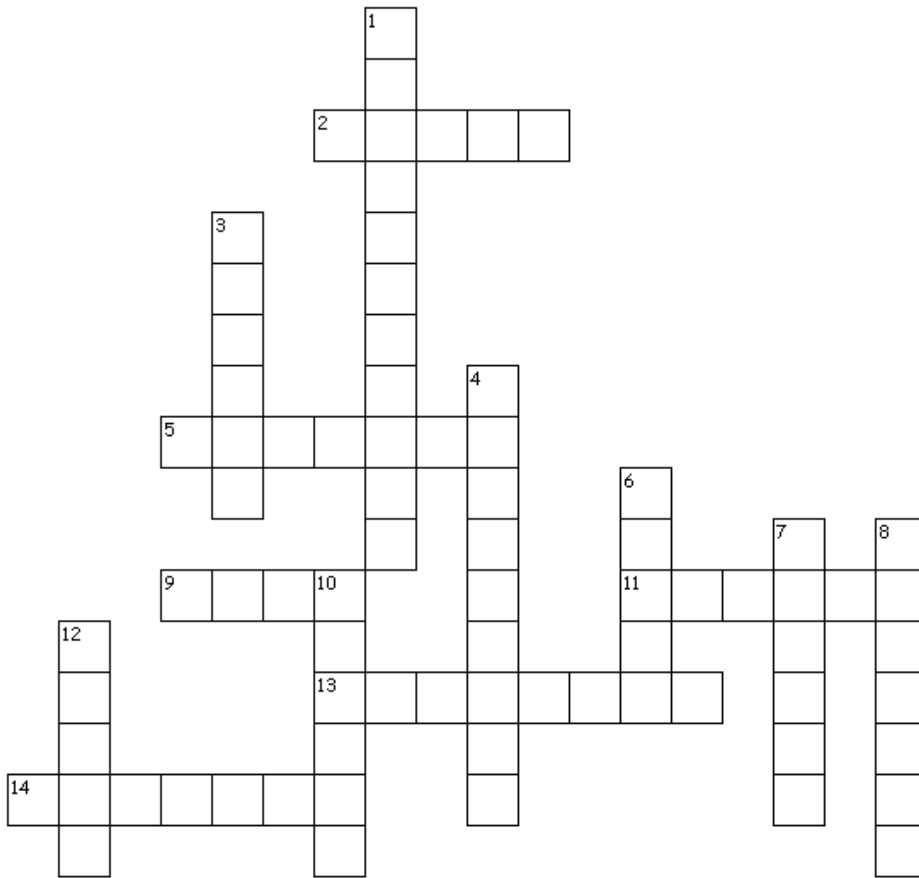
Mrs. Foster: My sister has macular degeneration.

Office Staff: Yes, I read that in your medical history. I'm afraid your high blood pressure and smoking may also have contributed to this condition.

Mrs. Foster: Well, I've smoked since I was 16 and now I'm 72.

Office Staff: It's never too late to quit. Anyway, here comes Dr. Simpson. Let's see what he says.

Lesson 6: The Eye and Ear Crossword



Across

- 2. controls light entering eye
- 5. dizziness
- 9. colored part of eye
- 11. white part of eyeball
- 13. pertaining to hearing
- 14. external ear

Down

- 1. pertaining to balance
- 3. covers pupil and iris
- 4. get smaller
- 6. beam of light
- 7. responsible for image formation
- 8. auditory bone middle ear
- 10. auditory bone middle ear
- 12. auditory bone middle ear

Answer Keys

Chapter 1

Parts of Speech

1. The medical community practices high standards.
2. Carolina is a healthy girl (from) California.
3. The doctor wears a white coat (at) the big hospital.
4. Modern medicine uses advanced technology (with) mixed results.
5. A healthy diet uses fresh fruit and green, leafy vegetables.
6. The red ambulance drove (through) the large, parking lot (around) the tall hospital.
7. The brilliant surgeon removed the malignant tumor (with) a scalpel.
8. Sweet oranges, green mangos, and fresh strawberries are healthy fruit (for) young children.
9. Busy pediatricians make important decisions every day.
10. Successful doctors play amateur golf (on) large, green courses (near) the Pacific Ocean.

Syllables and Accents

<u>or</u> /gan	<u>na</u> /vel	in/ <u>side</u>	<u>ra</u> /pid
<u>weak</u> /ness	<u>liv</u> /er	<u>vom</u> /it	<u>pre</u> /view
<u>preg</u> /nant	un/ <u>tie</u>	<u>swal</u> /low	in/ <u>gest</u>

Diacritical Marks

- | | | |
|----------|----------|-----------|
| 1. bāke | 6. bět | 11. bē |
| 2. mǒp | 7. sēm | 12. rīpe |
| 3. wīn | 8. vīsīt | 13. wět |
| 4. slīce | 9. wāke | 14. līght |
| 5. shāve | 10. kīss | 15. kīck |

Diacritical Marks (*continued*)

- | | |
|-----------|----------|
| 1. awāy | 4. shēet |
| 2. clōsed | 5. drī |
| 3. Wē | 6. thrēe |

Word Roots

- | | | | |
|----------|---------|---------|---------|
| 1. drive | 2. wash | 3. play | 4. heal |
|----------|---------|---------|---------|

Suffixes

- | | | | |
|-------|-------|-------|---------|
| 1. ed | 2. er | 3. al | 4. tion |
|-------|-------|-------|---------|

Prefixes

- | | | | |
|-------|-------|-------|---------|
| 1. re | 2. ex | 3. in | 4. post |
|-------|-------|-------|---------|

Latin and Greek Plural Suffixes

cortices	cicatrices
stigmata	bacteria
pleurae	angioplasties
hypotheses	vasectomies
data	stimuli
larvae	vertices
bronchi	stemmata
lumina	diagnoses

Matching answers

- | | | | |
|------|-------|-------|-------|
| 1. q | 6. s | 11. a | 16. e |
| 2. t | 7. k | 12. m | 17. j |
| 3. i | 8. r | 13. d | 18. c |
| 4. g | 9. b | 14. o | 19. f |
| 5. h | 10. l | 15. p | 20. n |

Crossword Puzzle Answers

Across

- 5. incision
- 9. column
- 10. reinforce
- 12. bold
- 13. analyze
- 14. create
- 16. enable
- 17. precede
- 18. terminology

Down

- 1. excision
- 2. hyphen
- 3. modify
- 4. refer
- 5. impaired
- 6. vowel
- 7. indicate
- 8. feedback
- 11. cell
- 14. combine
- 15. elements

Chapter 2

Vocabulary, Matching

- | | | |
|------|-------|-------|
| 1. l | 7. k | 13. r |
| 2. e | 8. p | 14. i |
| 3. f | 9. n | 15. g |
| 4. j | 10. o | 16. h |
| 5. a | 11. m | 17. q |
| 6. c | 12. b | 18. d |

Medical Terms and Their Meanings

- cardiac pertaining to the heart
anterior pertaining to the front of something
dermatologist skin specialist
hypogastric pertaining to below or under the stomach
cardiology study of the heart
postmortem after death
prenatal before birth
hypodermic pertaining to under the skin
posterior pertaining to the back
cardiologist heart specialist
preview before viewing
superior pertaining to being above

Abbreviations, Matching

- | | | |
|------|-------|-------|
| 1. g | 6. o | 11. e |
| 2. i | 7. k | 12. j |
| 3. l | 8. c | 13. f |
| 4. d | 9. a | 14. m |
| 5. b | 10. n | 15. h |

Crossword Puzzle Answers

Across

- 3. diagnose
- 5. spherical
- 7. cavity
- 11. tissue
- 14. quadrant
- 15. nucleus
- 16. directional

Down

- 1. substance
- 2. organ
- 4. orient
- 6. projection
- 8. designate
- 9. destructive
- 10. situated
- 12. cartilage
- 13. proceed

Chapter 3

Vocabulary, Matching

- | | | | |
|------|-------|-------|-------|
| 1. q | 6. t | 11. b | 16. d |
| 2. L | 7. j | 12. r | 17. e |
| 3. I | 8. a | 13. o | 18. f |
| 4. g | 9. c | 14. m | 19. n |
| 5. h | 10. k | 15. s | 20. p |

Integumentary system answers

- 1. The skin
- 2. The epidermis; dermis; and subdermis
- 3. The epidermis contains 4-5 layers
- 4. Dead cells; proteins; glycolipids
- 5. Loose connective tissue
- 6. The epidermis
- 7. The subdermis
- 8. The dermis
- 9. Vitamin D
- 10. Through perspiration
- 11. Protects the body's organs; protects against invasion of infection; protects the body from dehydration; protects the body from sudden changes in temperature; gets rid

of waste through perspiration; is sensitive to touch, pressure, pain, heat and cold; protects the body from the sun; absorbs Vitamin D; stores water, fat, glucose, and Vitamin D; helps temperature regulation.

Medical Terms and Their Meanings

leukocyte	white cell
subcutaneous.....	pertaining to under the skin
dermatitis.....	inflammation of the skin
epidermal.....	above dermal layer
gastritis	inflammation of the stomach
melanoma	black tumor
necrosis.....	abnormal death (of something)
lipocyte	fat cell
abdominoplasty.....	surgical repair of the abdomen
autotherapy.....	self treatment

Abbreviations

A. Did Mrs. Smith have her PE yet?

B. Yes she did. The doctor wants to do a Bx immediately. She has ID and IM discomfort. He also wants a WBC test as soon as possible.

A. I noticed in her FH that there is a lot of BCC. What about Mr. Jones?

B. He seems to be developing a decub ulcer on his back. I applied some oint but it doesn't seem to help his discomfort. I know that yesterday he had an I&D of a carbuncle on his neck. Let's go check on him.

Crossword Puzzle Answer

Across

- 2. graft
- 8. adhesion
- 12. palpable
- 13. capillary
- 14. integumentary
- 16. deficient
- 17. abnormal

Down

- 1. procedure
- 3. contagious
- 4. malignant
- 5. inflammation
- 6. swelling
- 7. discharge
- 9. implant
- 10. vital
- 11. eruption
- 15. ulcer

Chapter 4

Respiratory System Vocabulary Practice

- | | | |
|----------------|----------------|---------------|
| 1. Ventilation | 8. Spasms | 16. Abscess |
| 2. Respiration | 9. Obstruction | 17. Membrane |
| 3. Nasal | 10. Cessation | 18. Puncture |
| 4. Chronic | 11. Wheezing | 19. Prolapsed |
| 5. Thorax | 12. Dilate | 20. Sutures |
| 6. Pus | 13. Inhale | 21. Pathogen |
| 7. Catheter | 14. Exhale | 22. Polyps |
| | 15. Aspirate | |

Respiratory System

- | | |
|----------------|--|
| 1. oxygen | 5. epiglottis |
| 2. inhaling | 6. bronchi |
| 3. 1. filtered | 7. about 300 million |
| 2. heated | 8. CO ₂ |
| 3. moistened | 9. O ₂ is exchanged for CO ₂ |
| 4. trachea | 10. CO ₂ is exhaled out of the body |

Medical Terms and Their Meanings

- dyspnea..... difficulty breathing
cardioplegia..... paralysis of part of the heart
rhinitis..... inflammation of the nose
apnea..... no breathing
nasal..... pertaining to the nose
bronchitis..... inflammation of the bronchi
myopathy..... disease of a muscle
hypoxia..... not enough oxygen
rhinoplasty..... surgical repair of the nose
myalgia..... muscle pain
tracheitis..... inflammation of the trachea

Abbreviations

- | | |
|---------|--------------------|
| 1. CPR | 7. TB |
| 2. SIDS | 8. URI |
| 3. PFT | 9. CO ₂ |
| 4. SOB | 10. RD |
| 5. CF | 11. COLD |
| 6. IRDS | |

Crossword Puzzle

Across

- 4. exhale
- 5. respiration
- 8. thorax
- 9. chronic
- 13. aspirate
- 17. abscess
- 20. obstruction

Down

- 1. wheezing
- 2. polyp
- 3. suture
- 6. inhale
- 7. dilate
- 10. cessation
- 11. spasm
- 12. nasal
- 14. pus
- 15. pathogen
- 16. ventilation
- 18. catheter
- 19. puncture

Chapter 5

Matching

- | | | | |
|------|-------|-------|-------|
| 1. q | 7. m | 13. g | 19. o |
| 2. x | 8. u | 14. h | 20. p |
| 3. j | 9. s | 15. w | 21. f |
| 4. a | 10. t | 16. v | 22. e |
| 5. c | 11. l | 17. d | 23. n |
| 6. k | 12. i | 18. r | 24. b |

The Cardiovascular and Lymphatic Systems

- 1. The heart and blood vessels
- 2. 5-6 quarts, 4.7-5.7 liters
- 3. It transports deoxygenated blood away from the heart, to the lungs, and returns oxygenated blood back to the heart.
- 4. It transports oxygenated blood away from the heart to the rest of the body and returns oxygen-depleted blood back to the heart.
- 5. The heart
- 6. They act as filters that contain white blood cells that destroy bacteria and viruses in the lymph.
- 7. It is the spread of a disease from one organ or part to another non-adjacent organ or part.
- 8. The nodes become sites for secondary tumors.

Medical Terms and Their Meanings

- hemophobia fear of blood
- lymphopathy disease of the lymphatic system
- angiorrhaphy suture of a vessel
- thrombolysis breaking up of a blood clot
- tachypnea rapid breathing
- bradycardia slow heart rate
- endocardium structure within the heart
- phlebitis inflammation of a vein
- venotomy incision of a vein
- arteriorrhaphy suture of an artery

Abbreviations

A. Has the patient in room 103 had an EKG yet?

B. Yes. Dr. Diaz has the results. She also wanted the patient's RBC. The patient's family has a history of CHF and CAD.

A. The doctor must be concerned about an MI. What is the patient's CC?

B. She complains about SOB and dizziness, and she is having irregular heartbeats.

She takes ASA along with her other medications and carries NTG with her at all times. She should have taken the NTG with the symptoms she is experiencing.

A. The doctor just went into her room. I'm sure he will have her take it. Oh yea, there is a great article in the new Medical Journal about AIDS. A clinic in Denver is having success treating HIV with herbal therapy. It really is interesting.

B. Great, I'll read it on my break.

Crossword Puzzle

Down

- | | |
|------------------|----------------|
| 1. congenital | 16. elasticity |
| 3. chamber | 17. pump |
| 4. hardening | |
| 5. benign | |
| 7. narrowing | |
| 8. degeneration | |
| 10. torso | |
| 11. accumulation | |
| 13. rupture | |
| 14. groin | |

Across

- | |
|------------------|
| 2. tumor |
| 6. achieve |
| 9. enlargement |
| 12. node |
| 15. murmur |
| 18. adequate |
| 19. lobe |
| 20. interruption |
| 21. by pass |

Chapter 6

Vocabulary practice

- | | | |
|------------------------|------------------|---------------|
| 1. feces, stool, waste | 7. bowel | 13. acute |
| 2. anus | 8. orifices | 14. tolerance |
| 3. saliva | 9. bile | 15. jaundice |
| 4. partial | 10. duct | 16. biopsy |
| 5. metastasis | 11. preventative | 17. nausea |
| 6. absorb | 12. obese | 18. resection |

The Digestive System questions

1. Break down and absorb food
2. The mouth; esophagus; stomach; small intestine; large intestine; rectum and anus
3. Help digest food
4. The liver and pancreas
5. Stores the liver's digestive juices
6. In the mouth
7. The esophagus
8. The small intestine
9. Undigested parts of food
10. Through the small intestine
11. Villi and microvilli

Medical terms and their meanings.

gastroenterologist specialist of the stomach and intestines
esophagoplasty surgical repair of the esophagus
colostomy surgical opening of the colon
endoscopy visual examination in or within
hepatomegaly enlargement of the liver
dysphagia difficult or painful swallowing or eating
pancreatectomy removal of all or part of the pancreas
hepatitis inflammation of the liver
colonoscopy visual examination of the colon
enteropathy intestinal disease

Abbreviations

- A. Does Mr. Thompson in room 115 have a GI disorder?
B. I think so. The doctor ordered a BE and some other tests. He wants a FBS level and a GTT, so maybe there are symptoms of diabetes too.
- A. What is the patient's CC?
B. He has N/A, frequent urination, and pain with his BM.
- A. Well, he had a colonoscopy a couple of months ago, and there was a .25 cm polyp on his colon. Maybe the BE will show IBD.
B. Colon CA could be an issue too with that polyp. Let's get those tests started.

Crossword Puzzle

Across

- 3. discoloration
- 4. feces
- 6. bile
- 10. absorb
- 12. anus
- 13. tolerance
- 16. jaundice
- 17. nausea

Down

- 1. acute
- 2. bowel
- 3. duct
- 5. saliva
- 6. biopsy
- 7. resection
- 8. preventative
- 9. partial
- 11. metastasis
- 14. orifice
- 15. secrete

Chapter 7

Matching

- | | | | |
|------|-------|-------|-------|
| 1. q | 7. s | 12. f | 17. o |
| 2. h | 8. p | 13. i | 18. n |
| 3. a | 9. d | 14. g | 19. e |
| 4. t | 10. k | 15. b | 20. r |
| 5. c | 11. d | 16. l | 21. j |
| 6. u | | | |

The Urinary System questions

1. Two kidneys; two ureters; the bladder; two sphincter muscles; the urethra
2. About a quart and a half of urine
3. The 3 factors are: 1. The amount of fluid a person consumes; 2. How much fluid is lost through sweat and breathing; 3. Types of medication.
4. *Urea* is waste that is removed from the blood by the urinary system.
5. The kidneys are located near the middle of the back, just below the rib cage.
6. The kidneys remove urea from the blood.
7. Tubes called ureters
8. 8-10 inches long
9. The bladder stores urine until you are ready to go to the bathroom to empty it.
10. 16 ounces
11. Sphincter muscles help keep urine from leaking.
12. Nerves in the bladder

Medical terms answers

nephrectomy..... removal of a kidney
cystolith..... stone in the bladder
ureterocystoscope..... an instrument to view the ureter and bladder
polyuria..... excessive urination
nephromegaly..... enlargement of a kidney
ureterorrhaphy..... suture of the ureter
cystocele..... hernia in the bladder
urethralgia..... pain in the urethra
cystolithotomy..... incision in of the bladder to remove a stone

Abbreviations activity answers.

OS: Mr. Kohl is her for a cysto. His CC is he has a lot of pain when he voids and he voids often. He has a history of UTIs.

Dr. J: We will need to examine his KUB too. We better do a US.

OS: His pain could be a BNO. Would that show up in a UA?

Dr. J: I don't think so. The cysto will help us there. What is his BP and most recent WBC?

OS: His BP is 160/90 and I'll look in his records for the WBC.

Dr. J: At his age and with his history I think we better run a PSA test. Prostate CA is an issue with his symptoms.

OS: I'll schedule the US and PSA test for his next visit. He is waiting for you in room 202.

Crossword Puzzle answers

Across

4. edema
5. function
7. infection
11. concentration
14. toxin
16. eliminate
17. excessive
18. dissolve
20. stimulate
21. filter

Down

1. urination
2. hypertension
3. retention
6. intravenous
8. fixate
9. protrude
10. urinalysis
12. diuretic
13. insert
15. void
19. hernia

Chapter 8

Vocabulary activity answers

- | | | |
|------------------|-----------------|-----------------------|
| 1. hormone | 8. follicle | 15. ejaculate |
| 2. genitalia | 9. embryo | 16. testosterone |
| 3. fertilization | 10. hemorrhage | 17. outpatient |
| 4. fetus | 11. menopause | 18. scanty |
| 5. menstruation | 12. estrogen | 19. ectopic pregnancy |
| 6. intercourse | 13. lubricate | 20. obstetrics |
| 7. delivery | 14. infertility | 21. urologist |

Male and female reproductive system answers.

1. Two testes; a network of ducts; the seminal vesicles; the prostate gland; the penis
 2. In the scrotum
 3. The epididymis
 4. The urethra
 5. Urine and sperm
 6. The prostate gland
 7. Proper prostate secretion
 8. When it becomes filled with blood
-
1. The uterus; the fallopian tubes; the ovaries; the vagina
 2. The uterus
 3. It's the part of the uterus that meets the vagina
 4. The womb
 5. Thousands of egg cells
 6. The fallopian tubes
 7. 4-5 days
 8. Inside the fallopian tubes

Medical terms answers

prostatomegalyenlargement of the prostate
spermatocytesperm cell
hysterectomyremoval of the uterus
testalgia.....pain in the testes
salpingocele.....hernia in the fallopian tube
hysteroplastysurgical repair of the uterus
colposcopean instrument for examining the vagina and cervix
dystociaslow, difficult birth
hysteroscopy.....visual examination of the uterus

Abbreviations activity answers.

The patient is a 52 year old female with a history of having an STD. When she was 18 she had a VD that her doctor feared would make her infertile. There was a lot of hemorrhaging and the GYN department at the hospital had her under close observation. She recovered and now is para 3, two by CS. She has not been G since she was 35. Her PMP was 4 months ago, and her doctor thinks it was her LMP. Her doctor is convinced that she has entered menopause. However, she has experienced abnormal bleeding at irregular intervals. She also has pain when urinating, which she fears is being caused by a VD. A recent Pap smear detected some CA cells on her cervix. Now she is scheduled for surgery to remove the CA cells.

Crossword Puzzle answers

Across

- 3. fetus
- 5. embryo
- 7. infertile
- 9. urologist
- 11. genitalia
- 13. menstruation
- 15. delivery
- 16. testosterone
- 17. intercourse
- 18. ejaculate

Down

- 1. fertilization
- 2. menopause
- 4. estrogen
- 6. obstetrics
- 8. follicle
- 10. outpatient
- 12. lubricate
- 14. hemorrhage

Chapter 9

Matching

- | | | | |
|------|-------|-------|-------|
| 1. q | 6. k | 11. e | 16. p |
| 2. i | 7. l | 12. b | 17. n |
| 3. c | 8. g | 13. f | |
| 4. j | 9. h | 14. o | |
| 5. a | 10. d | 15. m | |

Endocrine system answers

- 1. Hormones
- 2. In the bloodstream
- 3. Receptors accept the hormones made by the glands.
- 4. Target tissue and organs contain the receptors that receive hormones.
- 5. In front of the heart and behind the sternum.
- 6. Yes
- 7. The pineal gland
- 8. In the neck
- 9. The adrenal gland

10. The pancreas
11. The pituitary gland
12. Growth; blood pressure; breast milk production; sex organ function; metabolizing food

Medical terms answers

adenoma	A tumor formed of glandular tissue
glucogenesis	Formation of glucose
pancreatitis	Inflammation of the pancreas
parathyroidectomy	Surgical removal of the gland near the thyroid
suprarenal	Pertaining to above the kidney (adrenal gland)
polydipsia	Excessive thirst
thyrotoxicosis	Abnormal condition, poisoning of the thyroid gland
radiologist	Physician who specializes in the study of x-rays

Abbreviations

DM, or simply, diabetes, is a group of diseases in which the patient has high blood glucose levels that result from defects in the body's ability to produce and/or use insulin. The ADA estimates that almost 8% of Americans have DM. There are two main types of DM: type 1 and type 2. In cases of type 1 DM the body doesn't make insulin and so it has to be injected or taken by IV. Most type 1 diabetics are IDDM. This type of DM is usually diagnosed in children or young adults.

Type 2 DM is the more common form of the disease. Diet and exercise play an important role in controlling type 2 DM. Medication can be taken po and the patient usually checks his/her BS daily. Type 2 DM is usually diagnosed in people over 40 years old. Obese people are at a high risk of developing type 2 DM.

Crossword puzzle answers

<u>Across</u>	<u>Down</u>
2. adolescence	1. bloodstream
5. homeostasis	3. extremity
6. monitor	4. accelerate
7. adrenaline	5. hyposecretion
10. network	8. dependent
11. hypersecretion	9. epinephrine
12. metabolize	15. conversion
13. gland	
14. duct	
16. receptor	

Chapter 10

Vocabulary, fill in the blanks

- | | | |
|----------------|----------------|-----------------|
| 1. peripheral | 7. paralysis | 13. palsy |
| 2. spinal | 8. bone marrow | 14. atrophy |
| 3. autonomic | 9. aneurysm | 15. convulsions |
| 4. cranial | 10. meninges | 16. psychosis |
| 5. involuntary | 11. dementia | 17. seizure |
| 6. cerebrum | 12. tremor | |

The nervous system

1. The central nervous system; peripheral nervous system
2. The central nervous system
3. In the peripheral nervous system
4. The autonomic nerves
5. The brain
6. The spinal cord and the nerves
7. Neurons and neuroglia
8. Neurons
9. 1. Respond to physical and chemical stimuli 2. Receive information through the senses 3. Control the muscles and glands 4. Responsible for learning and memory.
10. Support and protect the neurons
11. The spinal cord

Medical terms answers.

hemiparesis.....partial paralysis of half the body
encephalitis.....inflammation of the brain
myelalgia.....pain in the spinal cord
meningocele..... hernia of the meninges
cerebral..... pertaining to the cerebrum
neurologist doctor specializing in the study of nerves and nerve disorders
meningioma tumor of the meninges

Crossword puzzle answers

Across

2. meninges
3. paralysis
4. dementia
6. skull
7. seizure
10. convulsion
11. autonomic
12. cerebrum
13. palsy
15. atrophy

Down

1. peripheral
3. psychosis
5. tremor
8. involuntary
9. aneurism
14. spinal

Chapter 11

Matching answers

- | | | |
|------|-------|-------|
| 1. q | 9. e | 16. o |
| 2. j | 10. s | 17. g |
| 3. a | 11. v | 18. b |
| 4. c | 12. n | 19. l |
| 5. k | 13. t | 20. m |
| 6. r | 14. u | 21. h |
| 7. i | 15. f | 22. p |
| 8. d | | |

The Musculoskeletal System

1. Form 2. Support 3. Stability 4. Movement
- Prevents bones from rubbing together
- Ligaments
- Join muscles to bones
- Blood
- In the skeletal system
- Joint
- Contract
1. Provide motion that eliminates food through the digestive system
 2. Push blood throughout the body
 3. Contract the bladder to eliminate urine

Medical terms answers

arthritis inflammation of a joint
chondrocyte cartilage cell
tendoplasty surgical repair of a tendon
myopathy disease of a muscle
osteomalacia softening of a the bones
intervertebral pertaining to between the vertebrae
myoma tumor of a muscle
arthrodynia pain in a joint

Abbreviations answers

Ms. Hinman is 68 years old and has suffered from CTS and RA for the last 7 years. The CTS is responsible for numbness on her right side BE, and she experiences acute pain with movement AE. In 2006 she was in an automobile accident and experienced a femur Fx on her left leg. Currently she has circulation problems BK on that side and constant pain AK.

Crossword puzzle answers

Across

- 2. tarsals
- 4. ulna
- 5. femur
- 8. tendon
- 9. radius
- 11. tibia
- 12. humerus
- 15. clavicle
- 16. sternum
- 17. cartilage
- 18. carpals

Down

- 1. mandible
- 2. trapezius
- 3. ligament
- 6. scapula
- 7. deltoid
- 10. phalanges
- 13. ribs
- 14. joint
- 19. patella

Chapter 12

Matching

- | | |
|------|-------|
| 1. g | 7. c |
| 2. e | 8. j |
| 3. a | 9. b |
| 4. k | 10. l |
| 5. d | 11. h |
| 6. i | 12. f |

Fill in the blanks

- 1. 1. malleus 2. incus 3. stapes
- 2. sclera
- 3. cornea
- 4. auricle
- 5. tympanic membrane
- 6. optic nerve
- 7. auditory
- 8. vertigo
- 9. laser
- 10. pupil
- 11. iris
- 12. retina
- 13. constricts

Medical terms answers

otoplasty	surgical repair of the ear
anacusis	without hearing; deaf
intraocular	pertaining to within the eye
ophthalmectomy	surgical excision of the eye
diplopia	double vision
acoustic	pertaining to sound
otalgia	pain in the ear
audiology	the study of hearing and hearing disorders

Abbreviations answers

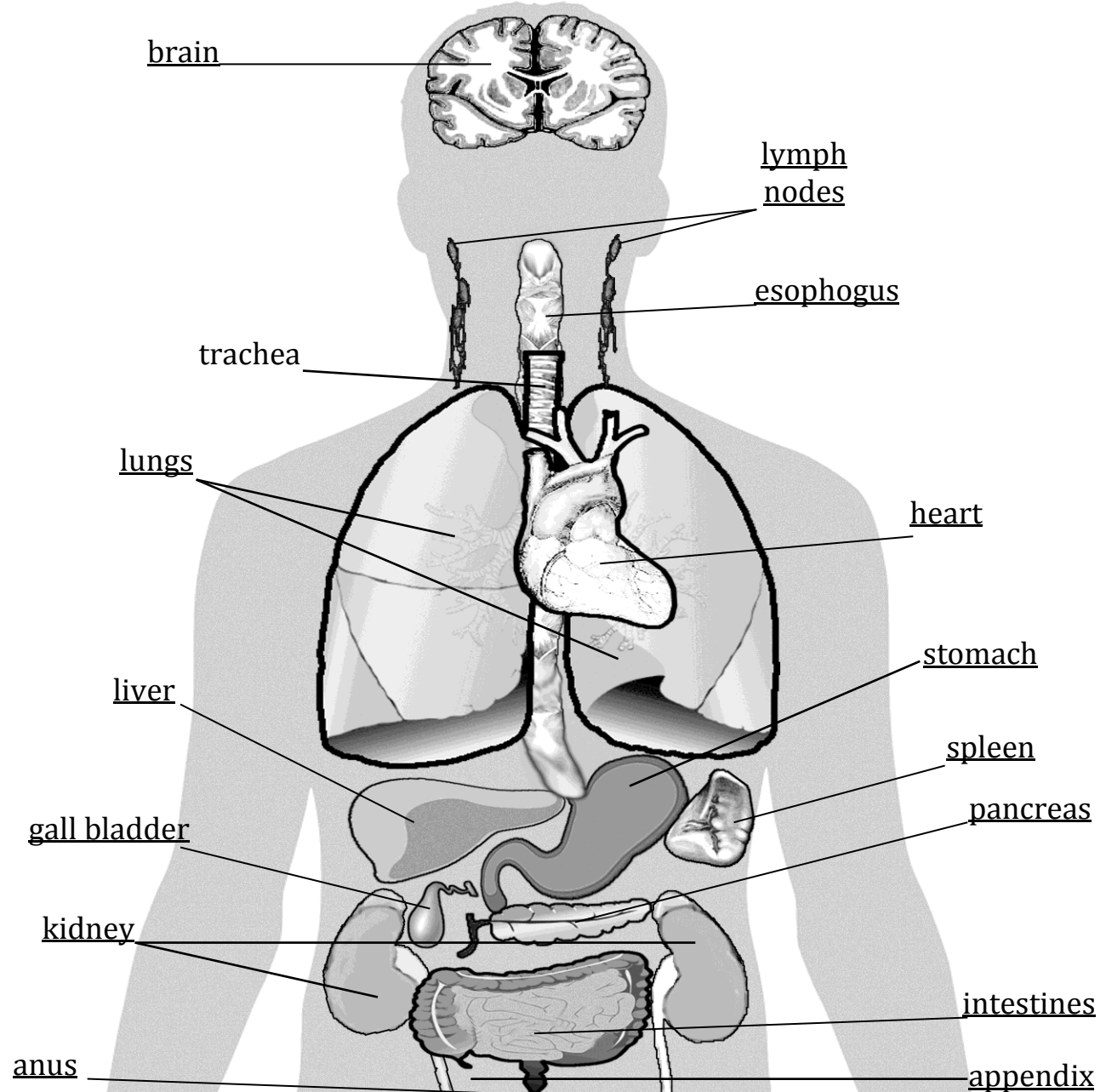
Many surfers in California suffer from swimmer's ear. Due to constant exposure to cold water and wind bones grow in the ear canal to keep the inner ear warm. The condition is usually worse in the AD than in the AS, but AU commonly requires surgery to remove the bones. Most surfers in California face west while waiting for a wave to catch. Therefore their AD is directly exposed to the prevailing west wind. Without treatment the patient usually becomes HOH. The OD is also more at risk than the OS for conjunctivitis complications for the same reason. Bacteria from water pollution will cause inflammation in OU, but the OD, with the added irritation of the wind, is usually more affected.

Crossword puzzle answers

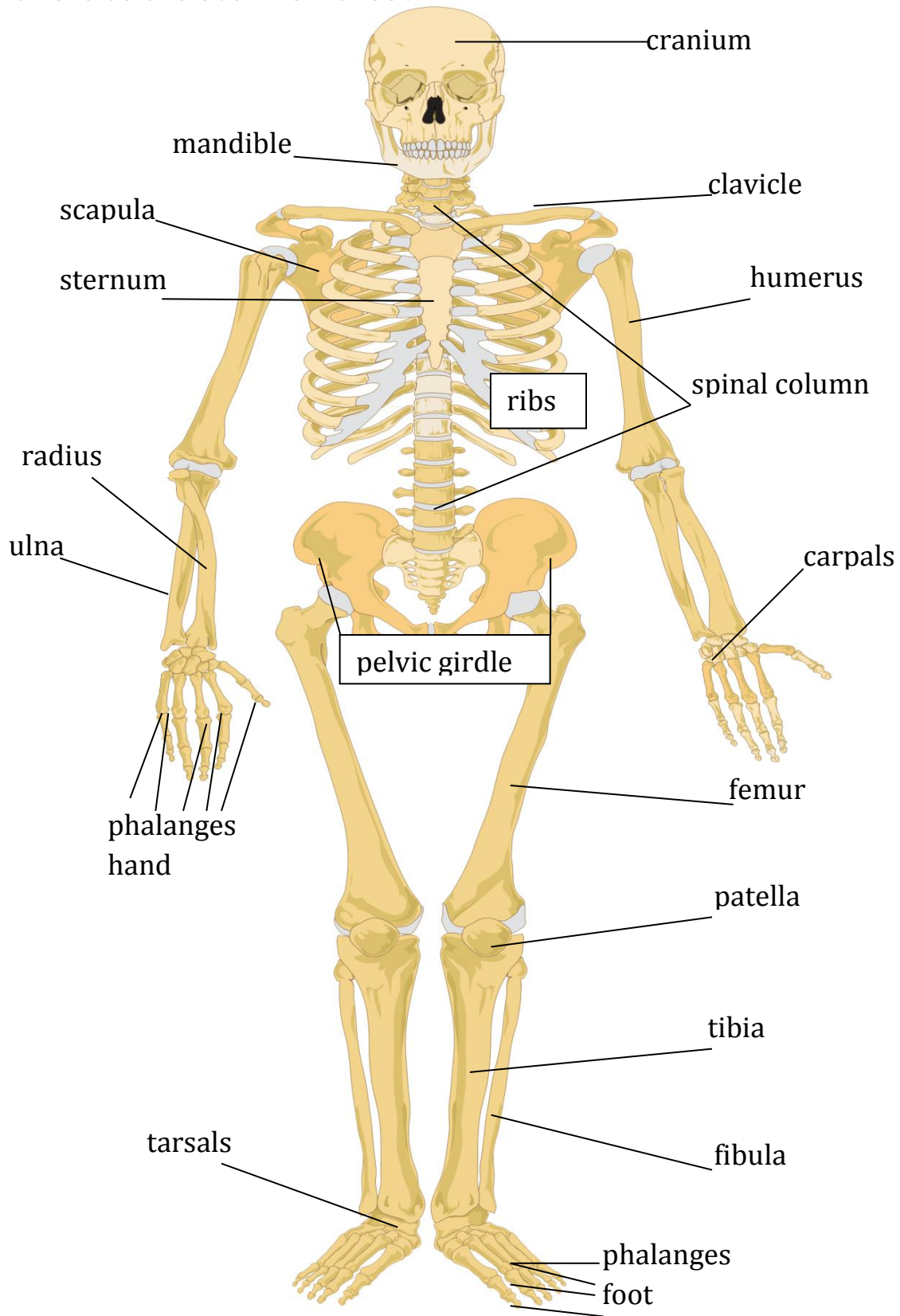
<u>Across</u>	<u>Down</u>
2. pupil	1. equilibrium
5. vertigo	3. cornea
9. iris	4. constrict
11. sclera	6. laser
13. auditory	7. retina
14. auricle	8. malleus
	10. stapes
	12. incus

Worksheet Answers

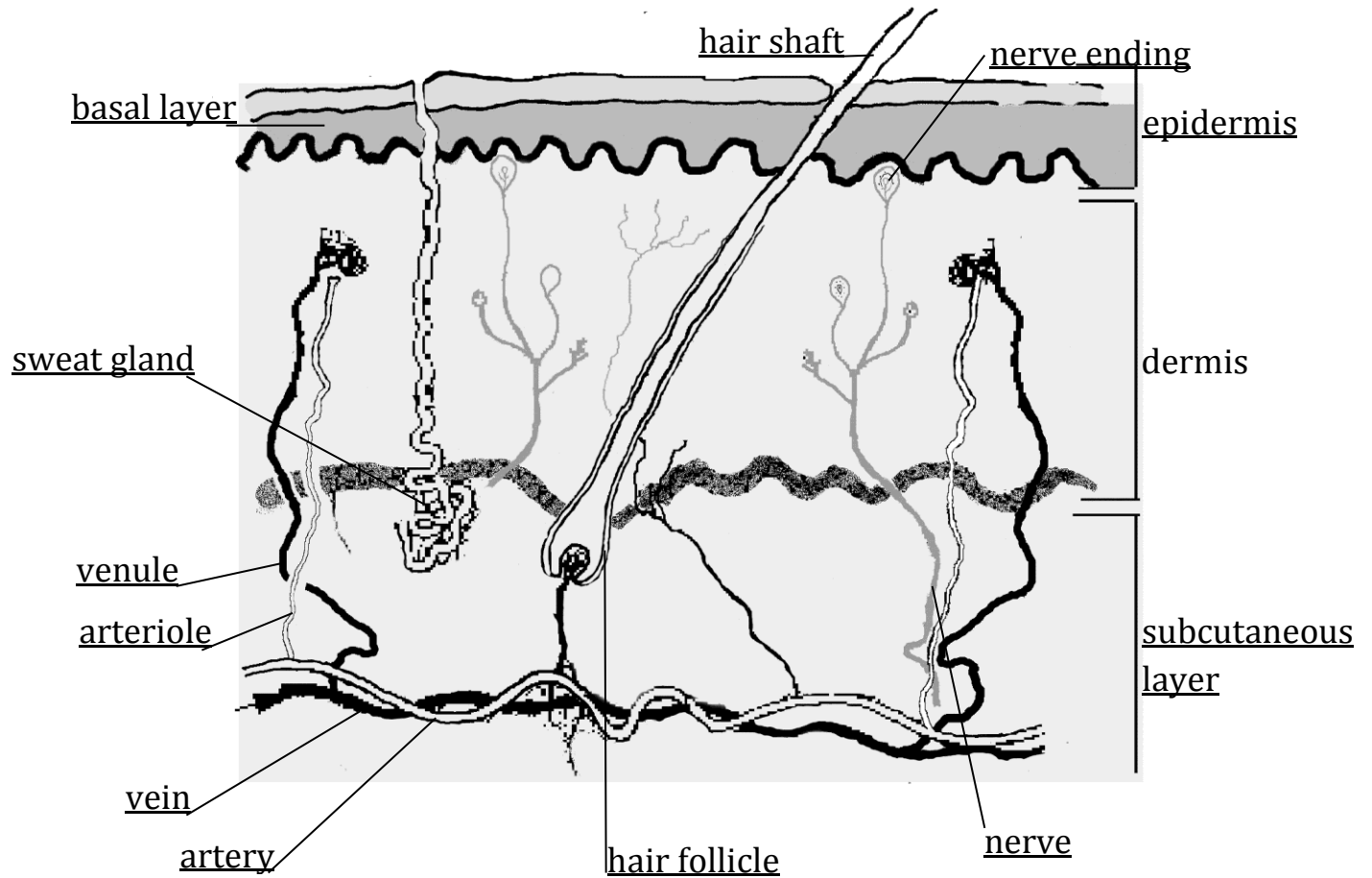
Answers to major organs worksheet:



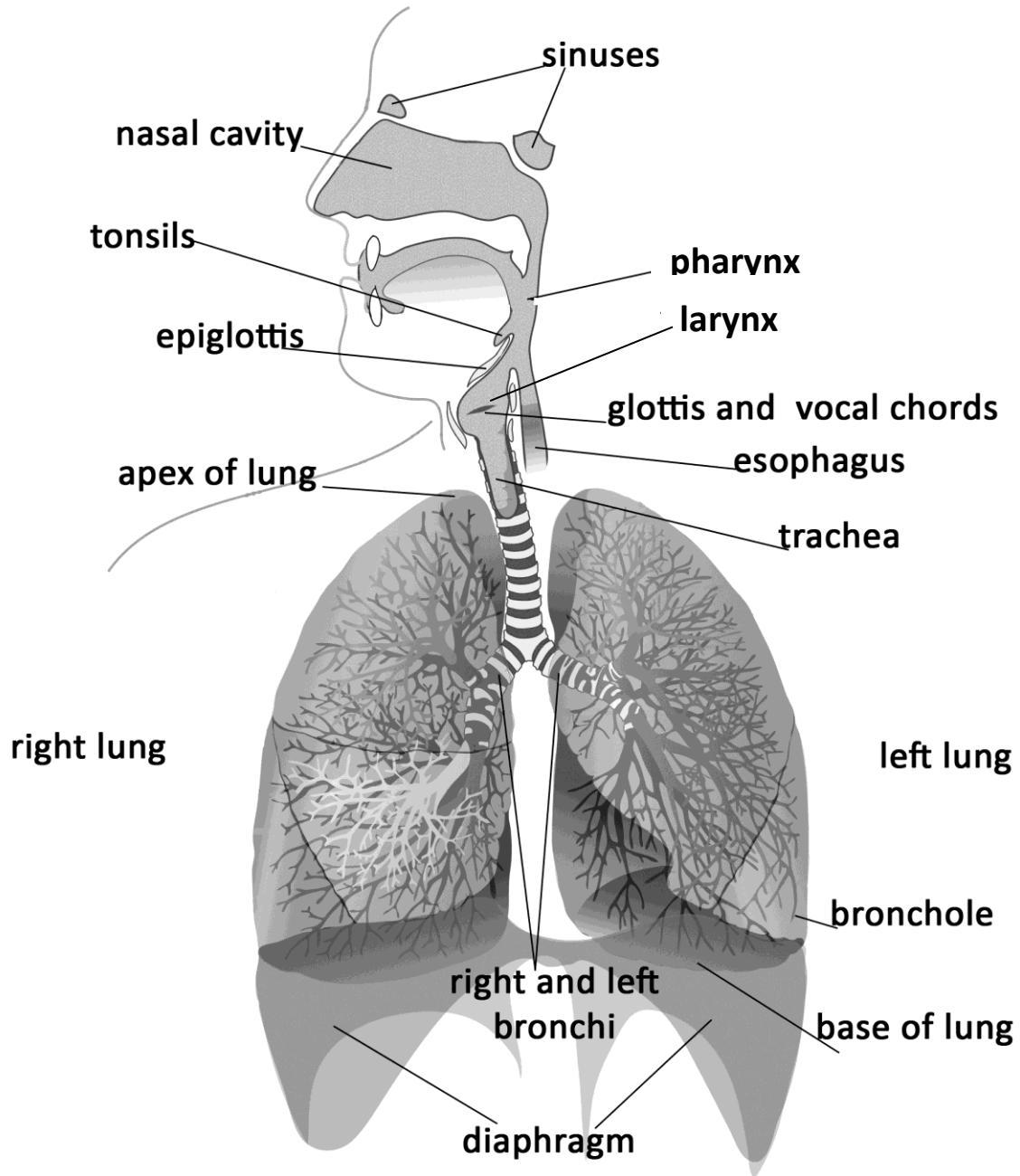
Answers to skeleton worksheet:



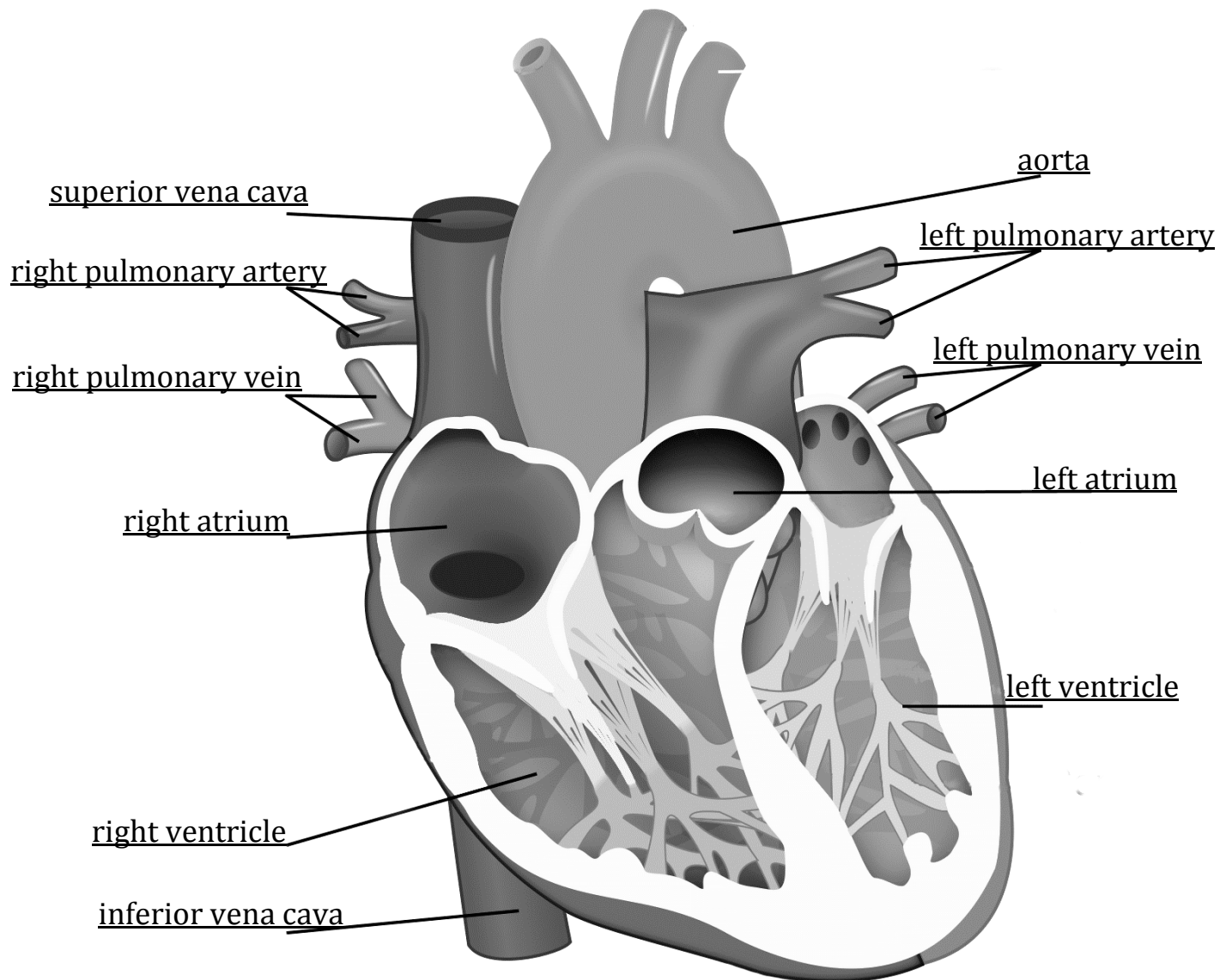
Answers for integumentary system worksheet:



Answers for respiratory system worksheet:



Answers for heart worksheet:



Answers for digestive system worksheet:

1 salivary glands

2 pharynx

3 tongue

4 esophagus

5 stomach

6 pancreas

7 liver

8 gall bladder

9 duodenum

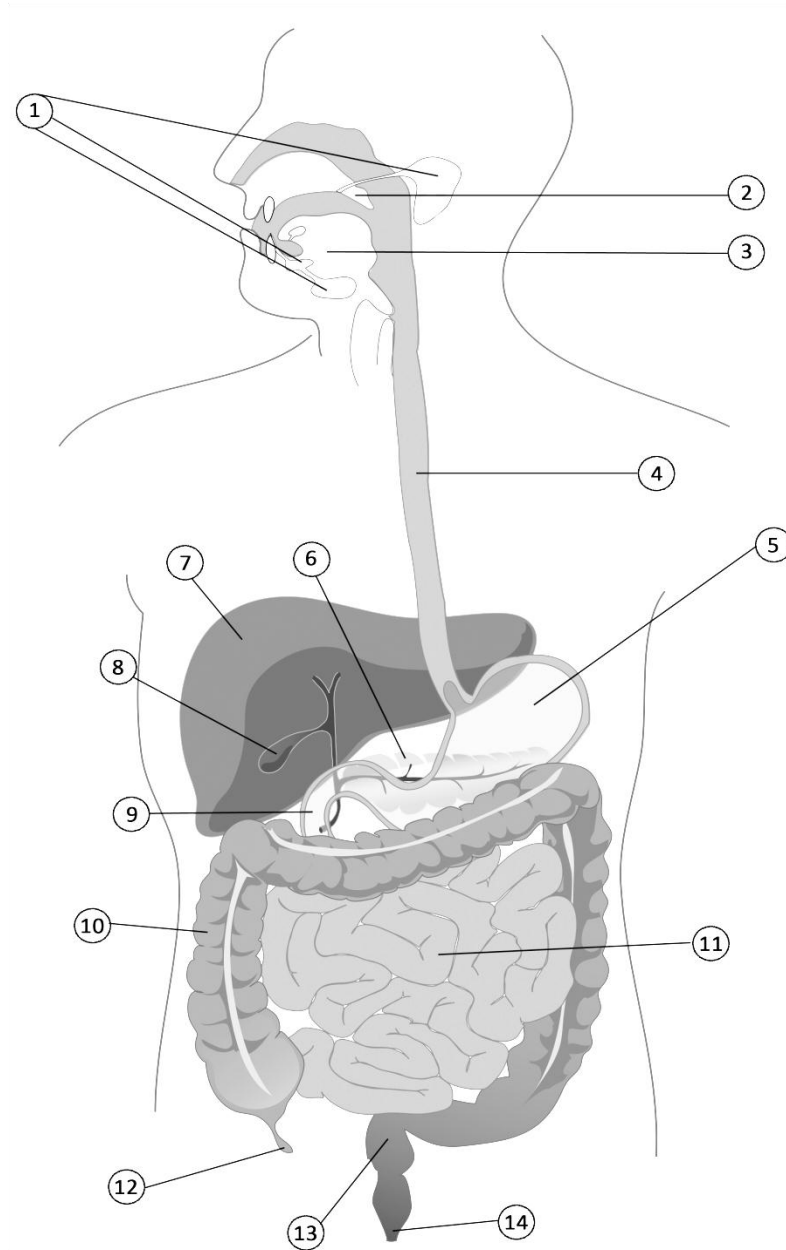
10 colon (large intestine)

11 ileum (small intestine)

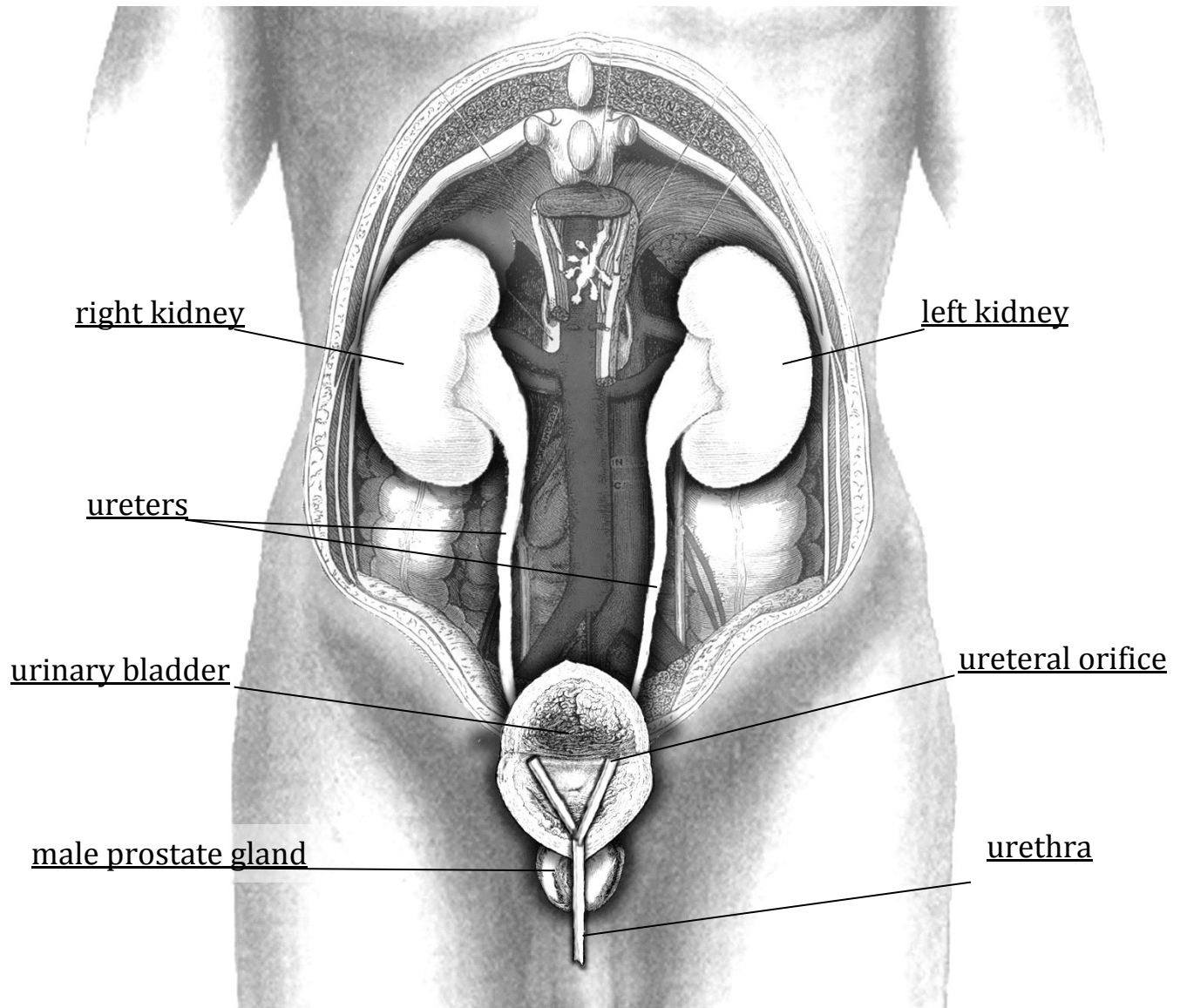
12 appendix

13 rectum

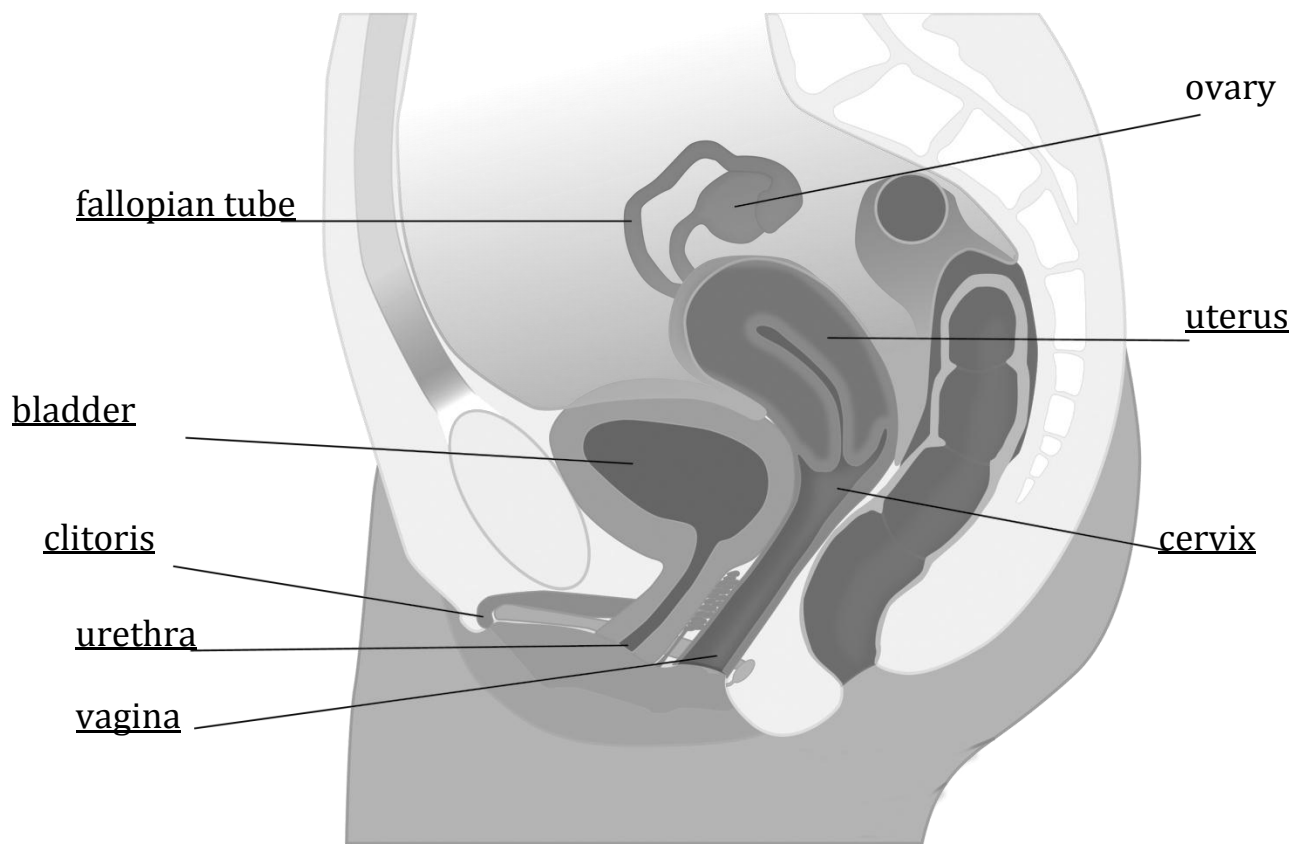
14 anus



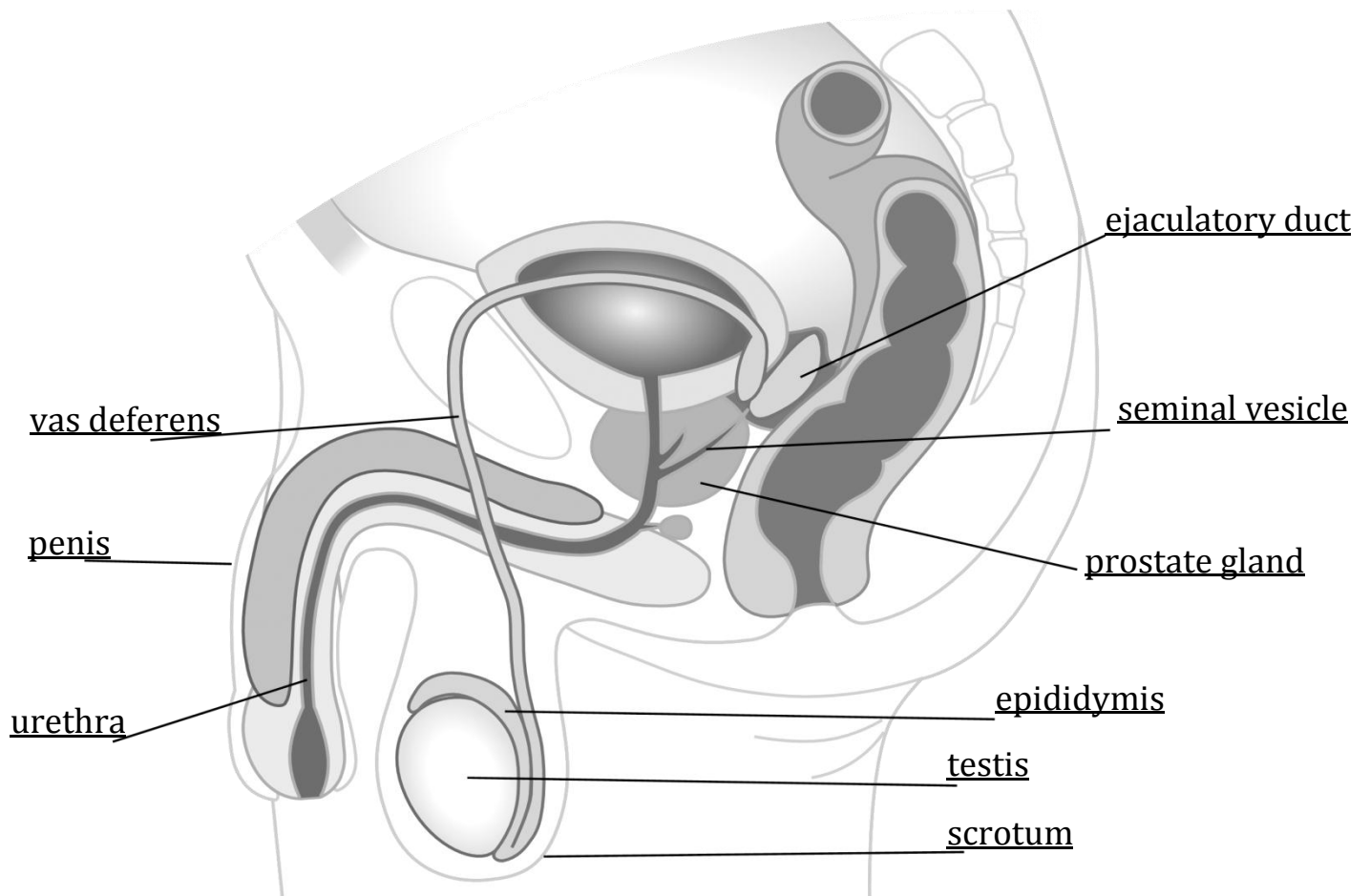
Answers for urinary system worksheet:



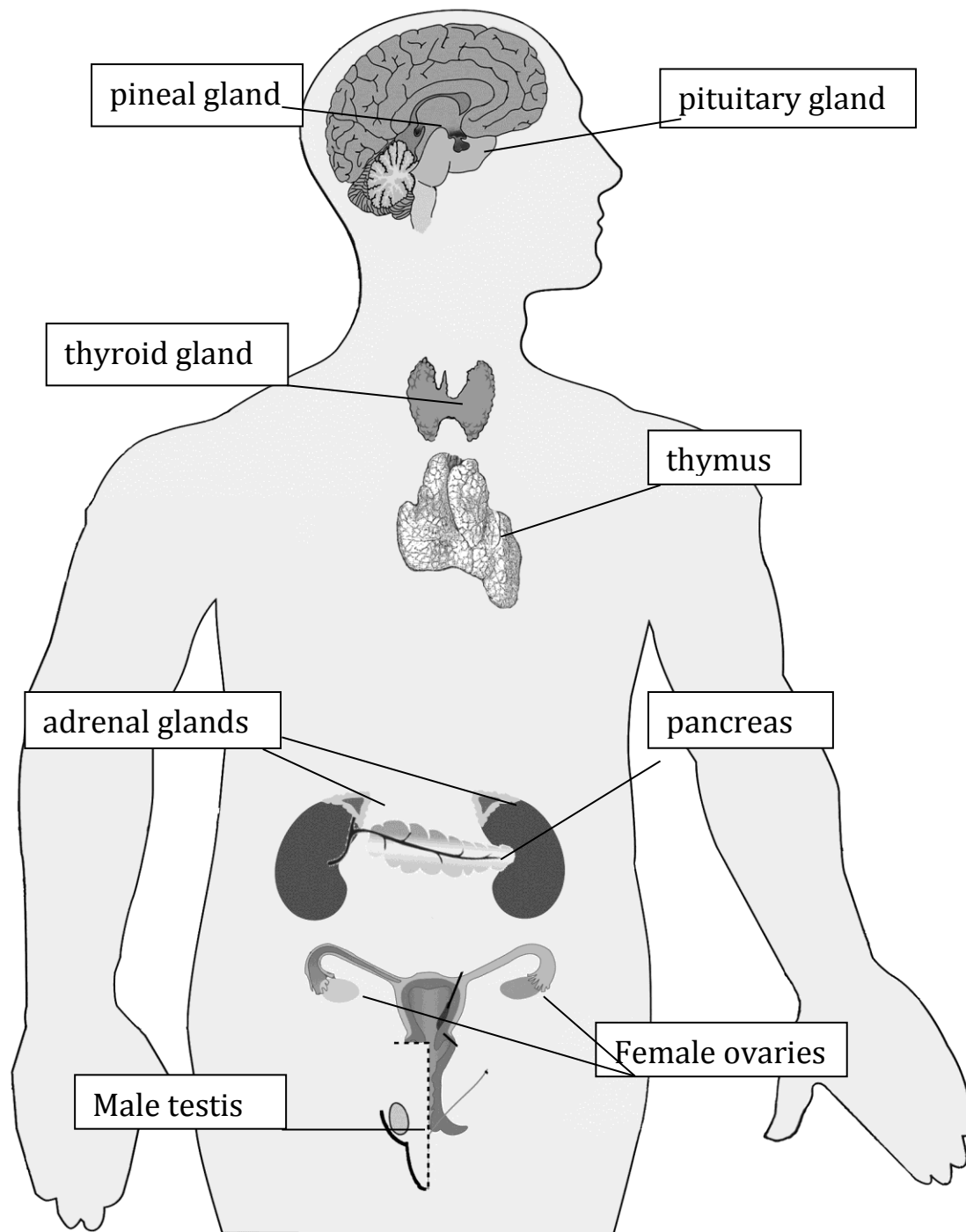
Answers to female reproductive system



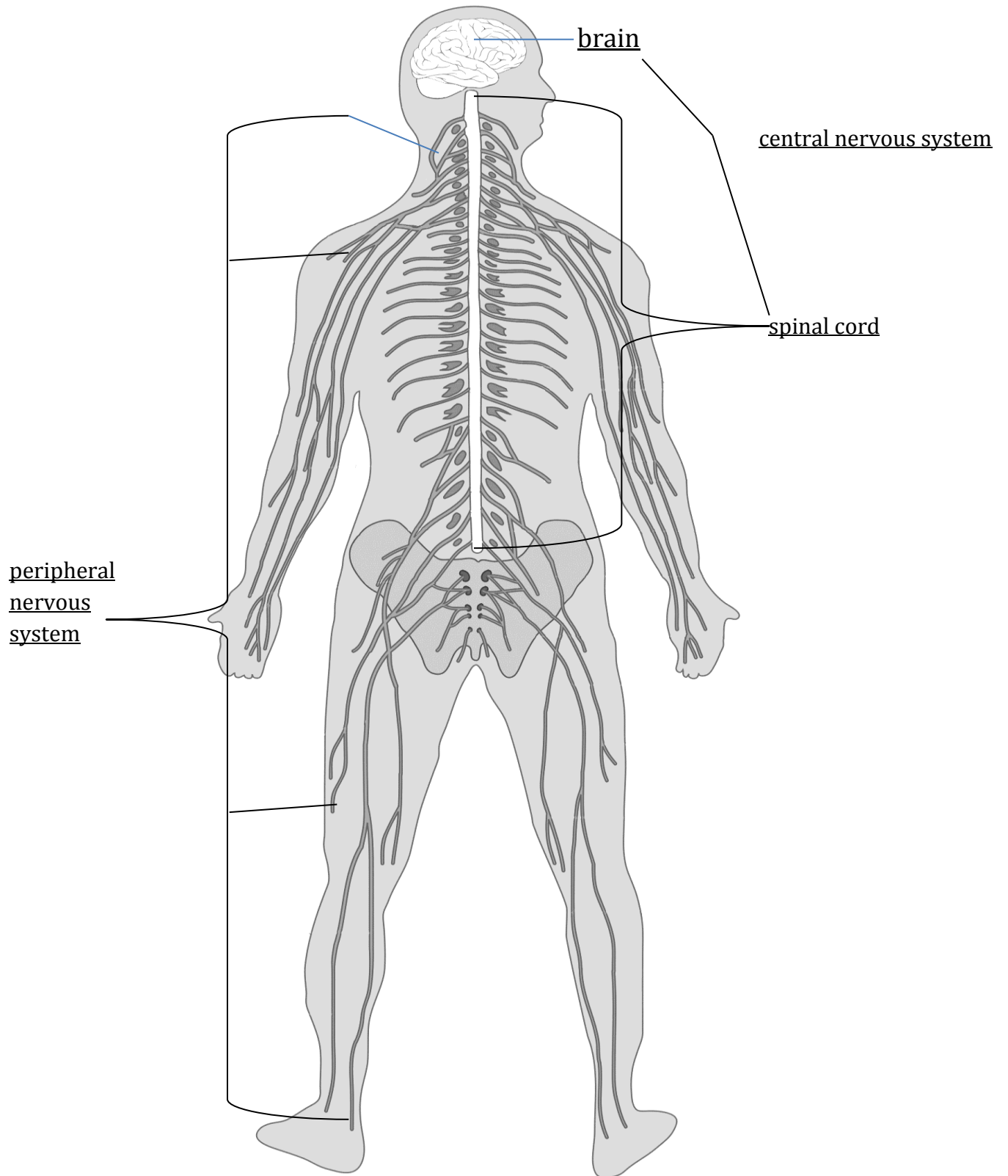
Answers to male reproductive system



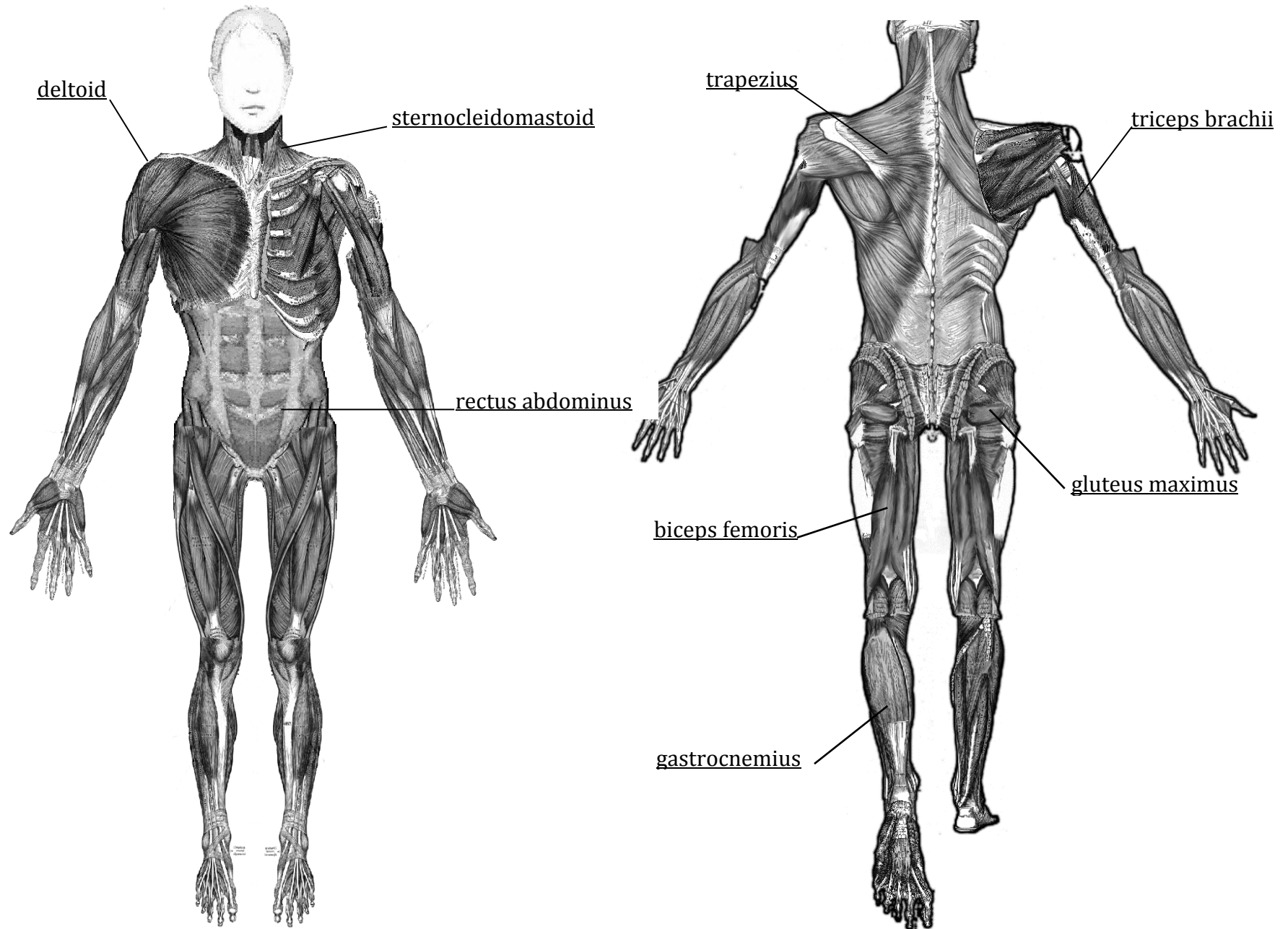
Answers to endocrine system worksheet



Answers to nervous system worksheet

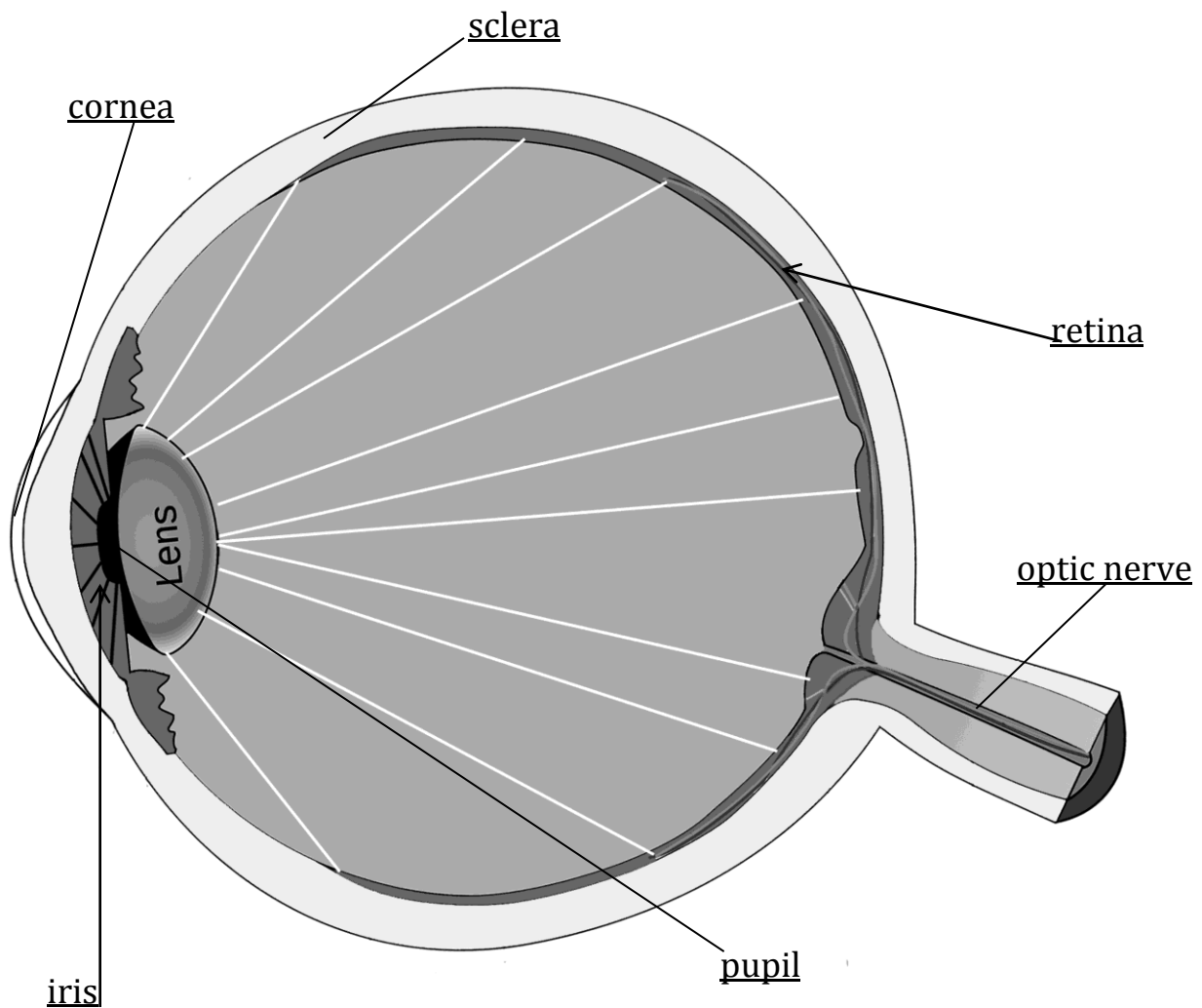


Answers to muscular system worksheet:

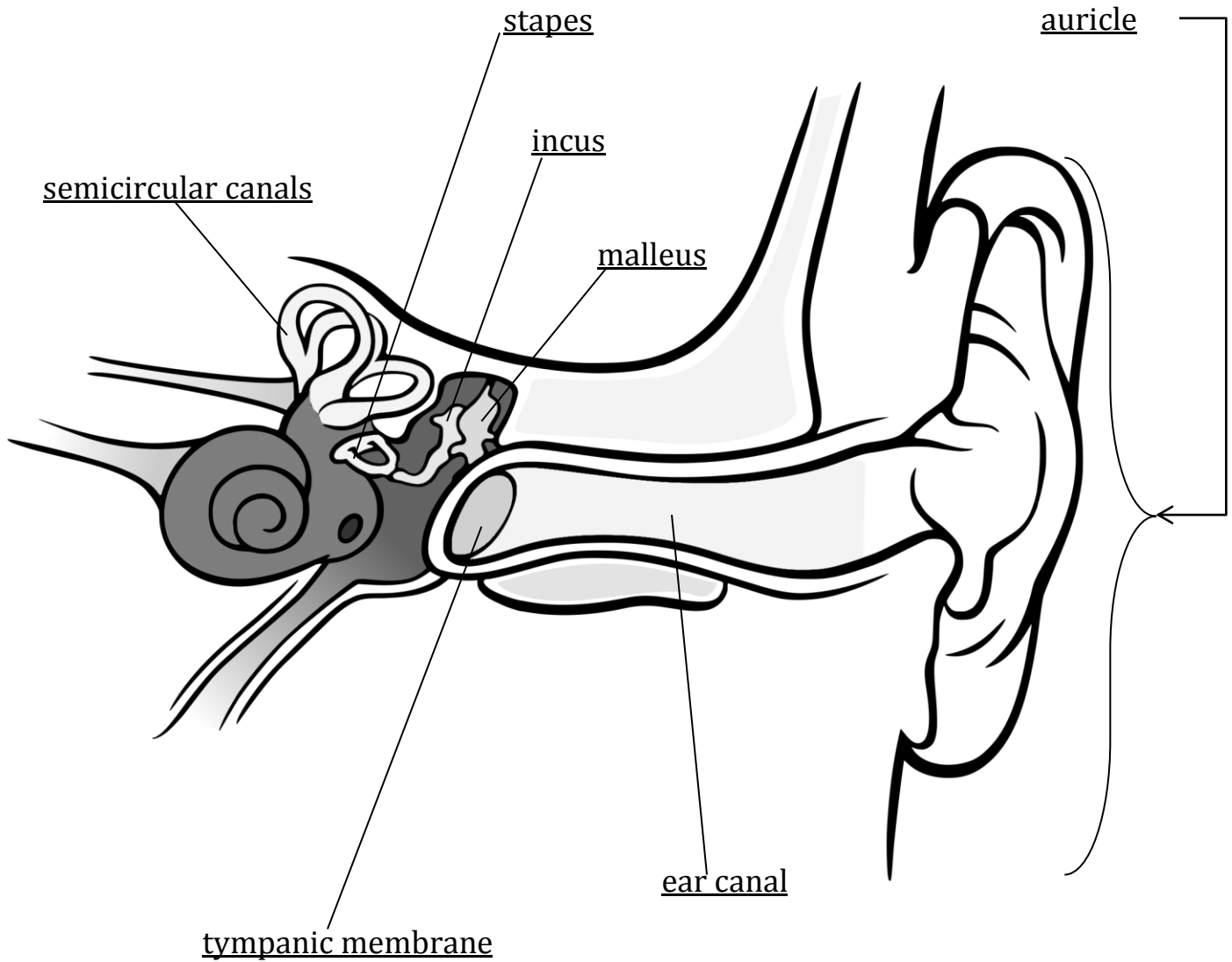


NOTE: FOR ANSWERS TO SKELETAL SYSTEM, SEE PAGE 170

Answers to the eye worksheet:



Answers to the ear worksheet:



Glossary

A

abnormal	not normal
abscess	a localized collection of pus usually with swelling and inflammation
absorb	to suck up or soak up liquid
accelerate	to progress, develop, or move faster
accumulation	increase or growth
achieve.....	to get; obtain
acute	sharp; severe; intense
adequate	sufficient; enough
adhesion	stuck together; joined together
adolescence	the “teen” years of development
adrenaline	a hormone secreted in response to fear, stress, or excitement
analyze	examine
aneurysm.....	localized widening of a blood vessel wall
anterior	front of the body
anus	anal orifice; opening at lower end of alimentary canal
aspirate	to inhale fluid or matter into the bronchi and lungs
atrophy	wasting away of a body part or tissue
auditory.....	pertaining to hearing
auricle	external ear
autonomic	occurring not by choice; involuntary

B

benign	not malignant; not dangerous
biceps brachii.....	anterior upper arm muscle
biceps femoris	hamstring muscle; posterior thigh muscle
bile	yellow or greenish fluid secreted by the liver
biopsy	removal and examination of a sample of tissue from a living body
blood clot.....	thickened blood causing blockage
bloodstream	the blood flowing through the body
bold (print)	dark print
bone marrow	soft tissue found in the cavity of most bones
bowel.....	the intestine
bypass.....	to avoid; cause fluid to flow through an alternate vessel

C

capable	able to; can
capillary	small blood vessel
carpals	bones of the fingers
cartilage	a firm, elastic, flexible connective tissue around joints, between bones
cartilage	connective tissue, keeps bone ends from rubbing together
catheter	hollow flexible tube
cavity	a hollow or empty space within the body, an organ, or a bone
cell	basic unit of the human organism
cerebrum	the anterior and largest part of the brain
cessation	stop or end
chamber	an enclosed space; compartment
chronic	constant; continuing a long time
clavicle	collarbone
column	vertical row
combine	join
composed of	made of or formed by things, parts, or elements
comprehension	to understand; to know
concentration	increasing of the strength of something
congenital	existing or dating from birth, not heredity
consonant	letter, not a vowel, b, c, d, f, g, h, etc.
constrict	to contract or shrink; make smaller
contagious	can spread from person to person
contraction	a muscle becomes shorter and thicker
conversion	change in form or function
convulsion	abnormal violent involuntary muscle contraction
cornea	transparent coat of the eye covering the iris and the pupil
cranial	pertaining to the cranium; skull
cranium	skull; protects the brain
create	make
cusp	a fold or flap of a cardiac valve

D

defecation	have a bowel movement
deficient	lacking something important
degeneration	loss of function; get worse
delivery	giving birth to a child
deltoid	shoulder muscle
dementia	loss of intellectual ability
denote	to mean; stand for
dependent	unable to live without help or drugs
derive	to get; obtain by reason
designate	assign; show; to name

destructive.....destroys or damages; hurts
determine.....decide
detrimental.....damaging; harmful
diagnose.....find and name illness, disease, medical condition
dilatemake wide or larger
directional.....pertains to a direction, (front, back, up, down)
dischargeto get rid of; release
discolorationmarked or stained
dissolvemake liquid of; melt; undo
diuretic.....agent or drug that stimulates urination
duct.....tube carrying secretion of a gland

E

ear canal.....tube going from the outer ear to the middle ear
ectopic pregnancy.....development of a fertilized egg outside of the uterus
edemaswelling
ejaculate.....to eject or shoot fluid
elasticity.....flexibility
elementsroot words, combining forms, prefixes, suffixes,
eliminate.....remove or get rid of
embryodeveloping human from conception to 8 weeks
enablemake possible or easy
enlargement.....made bigger; increased
epinephrine.....adrenaline
equilibrium.....pertaining to balance
eruptionto appear; break out violently; burst
estrogen.....natural steroid secreted by the ovaries
excessive.....too much; going beyond normal; more than necessary
excisioncut out
excreteto eliminate waste from the body
exhale.....breathe out
extremitya limb of the body (arm; leg)

F

feces.....body waste; excrement
feedback.....answer; response
femur.....thigh, upper leg bone; largest bone in the body
fertilizationthe process of becoming pregnant
fetus.....developing human from 2 months after conception to birth
fibulalower leg bone; behind the tibia
filtera thing through which gas or liquid passes and matter is removed
fixate.....make stable; stationary
folliclea small body cavity or sac
function.....the normal and specific action of a body part

fungusparasitic spore-producing organism, like mold or mildew

G

gastrocnemiuscalf muscle; lower leg muscle
genitaliathe external organs of reproduction
gland.....a group of cells or an organ producing secretion
gluteus maximusbutt; large posterior muscle above thigh
grafttransplant living tissue
groinarea between the thigh and the abdomen

H

hardeningto stiffen; make hard; become less flexible
hemorrhage.....bursting forth of blood
hernia.....an abnormal bulge or rupture in the wall of a cavity
homeostasis.....keeping a stable physical condition
hormonea substance produced by a gland that affects another part of the
body; like growth
humerus.....upper arm bone
hypersecretionsecreting too much body fluid
hypertension.....rise in BP; high BP
hyphen.....dash, (-)
hyposecretion.....secreting too little body fluid

I

image.....picture
impaireddamaged
implantto insert or graft into the body
inadequatenot complete; lacking something
incision.....cut
incusauditory bone of the middle ear
indicate.....to point out; to show
infection.....invasion of the body by pathogenic germs
inferiorlower or below
infertility.....unable to reproduce
inflammation.....redness, swelling, heat, pain to an area of the body
inhalebreathe in
insert.....to put in
integumentary.....pertaining to the skin
intercoursesexual contact between people
interruption.....break; disruption; gap
intravenousin a vein
involuntarynot by choice
iriscolored part of the eye

J

jaundice.....yellow discoloration of skin or whites of the eyes
joint.....where bones meet

L

lasera device that uses a beam of light to perform medical procedures
lateral.....side; to one side
lesion.....an injury; wound
ligament.....connective tissue; joins bones to bones
linkjoin
lobea curved or rounded projection
lubricate.....to make smooth or slippery

M

malignantcancerous; uncontrolled growth
malleusauditory bone of the middle ear
malpracticewhen a doctor doesn't give correct service
mandible.....jaw bone
medialmiddle, toward the middle
membrane.....a thin layer of tissue lining an organ
meninges3 layers of membranes that surround and protect the brain and
spinal cord
menopause.....when menstruation stops, usually between ages 45-55
menstruationin women the monthly discharge of blood from the uterus
metabolizewhen food is converted into energy
metastasisspread of disease through blood or lymph vessels
mispronounce.....say incorrectly
modify.....change
monitorwatch, observe, check continuously
mucus.....slimy liquid that lubricates and protects membranes
murmuran abnormal sound of the heart indicating something is wrong

N

narrowingmaking less wide
nasalof the nose
nausea.....sickness of the stomach; urge to vomit
network.....a netlike combination of veins, vessels or passages
node.....a pathological swelling or enlargement
nucleuscontrol center of cells

O

obesevery overweight

obstetrics.....branch of medicine that cares for pregnant women
 obstructionblockage
 optic nervesends visual information from the retina to the brain
 organa structure in the body that does specific function
 orient.....to direct or position toward a particular object
 orifice.....an opening through which something may pass
 outpatient.....a patient who is treated at a hospital but does not stay over night

P

palpableable to be felt
 palsypartial or complete loss of motor function
 paralysis.....loss of movement
 partialnot whole
 patellaknee cap (bone)
 pathogen.....anything that causes disease
 pelvic girdle.....hip bone
 peripheral.....relating to the surface part of the body; outer part of something
 pertaining to.....about; related to
 phalanges (foot).....bones of the toes
 phalanges (hand)bones of the fingers
 plaquea deposit of fatty material on the inner lining of an arterial wall
 polypa growth protruding from the mucus lining of an organ
 posteriorback of the body
 precede.....before
 preventativestop or hinder something
 previousbefore
 procedurea particular way of doing something
 proceedto move or go forward, esp. after stopping
 prognosis.....predict outcome
 projectiona part that sticks out; protrude
 prolapsed.....fall down; slip out of place
 protrude.....to bulge; swell
 psoriasis.....skin disease causing red spots and scales
 psychosisa severe mental disorder; patient loses contact with reality
 pump(heart); pushes blood through the body
 puncturehole
 pupilcontrols amount of light entering the eye
 pus.....liquid discharged from a wound or infection

Q

quadranta quarter of a circle

R

radius.....shorter bone of the lower arm or forearm; joins to the thumb

S

T

195

tendon.....joins muscle to bone
terminologyterms; words
testosteronenatural steroid produced by the testes
thorax.....chest
tibia.....shin, anterior bone of the lower leg
tissuesimilar cells forming structural material with a specific function.
tolerance.....when the body becomes less sensitive to something
torsothe trunk of the body
toxin.....poison
transmissionspreading or passing disease or infection to another person
transplant.....to transfer tissue from one part or individual to another
trapezius.....upper back muscle
traumaan injury to the body caused by impact or force
tremor.....involuntary shaking of the body or limb
triceps brachii.....posterior upper arm muscle
tumoran abnormal benign or malignant new growth of tissue
tympanic membrane....eardrum; receives sound vibrations and sends them to the middle ear

U

ulcer.....a sore on the skin or a mucus membrane
ulcerationformation of an ulcer
ulnalonger lower arm bone
urinalysis.....physical, chemical, microscopic examination of urine
urination.....passing of urine
urologist.....doctor specializing in the male reproductive and urinary systems

V

valvea bodily structure that closes a passage temporarily or permits flow
in one direction
ventilation.....exchange of gases in the lungs
vertigodizziness associated with disorder of inner ear
vessel.....a tube or canal in which body fluid is circulated
vital.....important; necessary
voidto urinate
vowel.....a, e, i, o, u

W

waste.....excrement; feces; body waste
wheezing.....difficulty breathing, making a whistling sound