CHAPTER 1 — Basic Elements of a Medical Word

LEARNING ACTIVITY 1–1
Understanding medical word elements
Fill in the following blanks to complete the sentences correctly.
1. root, combining form, suffix, and prefix.
2. teach
Identify the following statements as true or false. If false, rewrite the statement correctly in the space provided.
3. False—A combining vowel is usually an “o.”
4. False—A combining form links a suffix that begins with a consonant.
5. True
6. True

LEARNING ACTIVITY 1–2
Identifying word roots and combining forms
Underline the word roots in the following terms.
1. nephr
2. arthrodesis
3. phlebotomy
4. dentist
5. gastrectomy
6. chondritis
7. hepatoma
8. cardiologist
9. gastria
10. osteoma
Underline the elements below that are combining forms.
11. nephr
12. cardi/o
13. arth
14. oste/o/arth
15. choangi/o

LEARNING ACTIVITY 1–3
Identifying suffixes and prefixes
Analyze each term and write the element from each that is a suffix.
1. -tomy
2. -scope
3. -itis
4. -itis
5. -ectomy
Analyze each term and write the element from each that is a prefix.
6. micro-
7. hyper-
8. macro-
9. intra-
10. a-
### LEARNING ACTIVITY 1–4

**Defining and building medical words**

Use the three basic steps to define the following words.

<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. gastritis</td>
<td>inflammation of the stomach</td>
</tr>
<tr>
<td>gastr-TRI-tis</td>
<td></td>
</tr>
<tr>
<td>2. nephritis</td>
<td>inflammation of the kidneys</td>
</tr>
<tr>
<td>nef-RI-tis</td>
<td></td>
</tr>
<tr>
<td>3. gastrectomy</td>
<td>excision of the stomach</td>
</tr>
<tr>
<td>gast-RE-k-o-mē</td>
<td></td>
</tr>
<tr>
<td>4. osteoma</td>
<td>tumor of bone</td>
</tr>
<tr>
<td>ōs-tē-O-mā</td>
<td></td>
</tr>
<tr>
<td>5. hepatoma</td>
<td>tumor of the liver</td>
</tr>
<tr>
<td>hep-ā-TO-mā</td>
<td></td>
</tr>
<tr>
<td>6. hepatitis</td>
<td>inflammation of the liver</td>
</tr>
<tr>
<td>hep-ā-TI-tis</td>
<td></td>
</tr>
</tbody>
</table>

Write the number for the rule that applies to each listed term as well as a short summary of the rule.

<table>
<thead>
<tr>
<th>Term</th>
<th>Rule</th>
<th>Summary of the Rule</th>
</tr>
</thead>
<tbody>
<tr>
<td>7. arthr/itis</td>
<td>1</td>
<td>A WR links a suffix that begins with a vowel.</td>
</tr>
<tr>
<td>ar-thr-THRI-tis</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. scler/osis</td>
<td>1</td>
<td>A WR links a suffix that begins with a vowel.</td>
</tr>
<tr>
<td>skle-RO-sis</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. arthr/o/centesis</td>
<td>2</td>
<td>A CF links a suffix that begins with a consonant.</td>
</tr>
<tr>
<td>ar-thr-o-sén-TÉ-sis</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. colon/o/scope</td>
<td>2</td>
<td>A CF links a suffix that begins with a consonant.</td>
</tr>
<tr>
<td>ko-LON-ō-skōp</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11. chondr/itis</td>
<td>1</td>
<td>A WR links a suffix that begins with a vowel.</td>
</tr>
<tr>
<td>kön-DRI-tis</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12. chondr/oma</td>
<td>1</td>
<td>A WR links a suffix that begins with a vowel.</td>
</tr>
<tr>
<td>kön-DRO-mā</td>
<td></td>
<td></td>
</tr>
<tr>
<td>13. oste/o/chondr/itis</td>
<td>3</td>
<td>A CF links multiple roots to each other. This rule holds true even if the next word root begins with a vowel.</td>
</tr>
<tr>
<td>ōs-tē-ō-kön-DRI-tis</td>
<td></td>
<td></td>
</tr>
<tr>
<td>14. muscul/ar</td>
<td>1</td>
<td>A WR links a suffix that begins with a vowel.</td>
</tr>
<tr>
<td>MŪS-kū-lär</td>
<td></td>
<td></td>
</tr>
<tr>
<td>15. oste/o/arthr/itis</td>
<td>3</td>
<td>A CF links multiple roots to each other. This ōs-tē-ō-ār-rule holds true even if the next word root begins with a vowel.</td>
</tr>
<tr>
<td>ōs-tē-ō-ār-THRI-tis</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1 A WR links a suffix that begins with a vowel.

2 A CF links a suffix that begins with a consonant.

3 A CF links multiple roots to each other. This rule holds true even if the next word root begins with a vowel.
LEARNING ACTIVITY 1–5

Understanding pronunciations

Review the pronunciation guidelines (located inside the front cover of this book) and then underline the correct answer in each of the following statements.

1. macron
2. breve
3. long
4. short
5. k
6. n
7. is
8. eye
9. second
10. separate

CHAPTER 2 — Suffixes

LEARNING ACTIVITY 2–1

Completing and building surgical words

1. episiotomy
2. colectomy
3. arthrocentesis
4. splenectomy
5. colostomy
6. osteotome
7. tympanotomy
8. tracheostomy
9. mastectomy
10. lithotomy
11. hemorrhoidectomy
12. colostomy
13. colectomy
14. osteotome
15. arthrocentesis
16. lithotomy
17. mastectomy
18. tympanotomy
19. tracheostomy
20. splenectomy

LEARNING ACTIVITY 2–2

Completing and building more surgical words

1. arthrodesis
2. rhinoplasty
3. tenoplasty
4. myorrhaphy
5. mastectomy
6. cystorrhaphy
7. osteoclasis
8. lithotripsy
9. enterolysis
10. neurotripsy
11. rhinopasty
12. arthrodesis
13. myorrhaphy
14. mastopexy
15. cystorrhaphy
16. tenoplasty
17. osteoclasis
18. lithotripsy
19. enterolysis
20. neurotripsy

LEARNING ACTIVITY 2–3

Selecting a surgical suffix

1. lithotripsy
2. arthrocentesis
3. splenectomy
4. colostomy
5. dermatome
6. tracheostomy
7. lithotomy
8. mastectomy
9. hemorrhoidectomy
10. tracheotomy
11. mastopexy
12. colectomy
13. gastrorrhaphy
14. hysteropexy
15. rhinoplasty
16. arthrodesis
17. osteoclasis
18. neurolysis
19. myorrhaphy
20. tympanotomy
LEARNING ACTIVITY 2–4
Selecting diagnostic, pathological, and related suffixes
1. hepatoma
2. neuralgia
3. bronchiectasis
4. carcinogenesis
5. dermatoasis
6. nephromegaly
7. otorrhea
8. hysterorrhexis
9. blepharospasm
10. cystocele
11. hemorrhage
12. lithiasis
13. hemiplegia
14. myopathy
15. dysphagia
16. osteomalacia
17. aphasia
18. leukemia
19. erythropenia
20. pelvimetry

LEARNING ACTIVITY 2–5
Building pathological and related words
1. bronchiectasis
2. cholelith
3. carcinogenesis
4. osteomalacia
5. hepatomegaly
6. cholelithiasis
7. hepatocele
8. neuropathy
9. dermatosis
10. hemiplegia
11. dysphagia
12. aphasia
13. cephalalgia
14. blepharospasm
15. hyperplasia, hypertrophy

LEARNING ACTIVITY 2–6
Selecting adjective, noun, and diminutive suffixes
1. thoracic
2. gastric, gastral
3. bacterial
4. aquatic
5. axillary
6. cardiac, cardial
7. spinal, spinous
8. membranous
9. internist
10. leukemia
11. sigmoidoscopy
12. alcoholism
13. senilism
14. allergist
15. mania
16. arteriole
17. ventricle
18. venule

LEARNING ACTIVITY 2–7
Forming plural words

<table>
<thead>
<tr>
<th>Singular</th>
<th>Plural</th>
<th>Rule</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. diagnosis</td>
<td>diagnoses</td>
<td>Drop is and add es.</td>
</tr>
<tr>
<td>2. fornix</td>
<td>fornices</td>
<td>Drop ix and add ices.</td>
</tr>
<tr>
<td>3. vertebra</td>
<td>vertebrae</td>
<td>Retain a and add e.</td>
</tr>
<tr>
<td>4. keratosis</td>
<td>keratoses</td>
<td>Drop is and add es.</td>
</tr>
<tr>
<td>5. bronchus</td>
<td>bronchi</td>
<td>Drop us and add i.</td>
</tr>
<tr>
<td>6. spermatozoon</td>
<td>spermatozoa</td>
<td>Drop on and add a.</td>
</tr>
<tr>
<td>7. septum</td>
<td>septa</td>
<td>Drop um and add a.</td>
</tr>
<tr>
<td>8. coccus</td>
<td>cocci</td>
<td>Drop us and add i.</td>
</tr>
<tr>
<td>9. ganglion</td>
<td>ganglia</td>
<td>Drop on and add a.</td>
</tr>
<tr>
<td>10. prognosis</td>
<td>prognoses</td>
<td>Drop is and add es.</td>
</tr>
<tr>
<td>11. thrombus</td>
<td>thrombi</td>
<td>Drop us and add i.</td>
</tr>
<tr>
<td>12. appendix</td>
<td>appendices</td>
<td>Drop ix and add ices.</td>
</tr>
<tr>
<td>13. bacterium</td>
<td>bacteria</td>
<td>Drop um and add a.</td>
</tr>
<tr>
<td>14. testis</td>
<td>testes</td>
<td>Drop is and add es.</td>
</tr>
<tr>
<td>15. nevus</td>
<td>nevi</td>
<td>Drop us and add i.</td>
</tr>
</tbody>
</table>
CHAPTER 3 — Prefixes

LEARNING ACTIVITY 3–1
Identifying and defining prefixes

<table>
<thead>
<tr>
<th>Word</th>
<th>Definition of Prefix</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. inter/dental</td>
<td>between</td>
</tr>
<tr>
<td>2. hypo/dermic</td>
<td>under, below, deficient</td>
</tr>
<tr>
<td>3. epi/dermis</td>
<td>above, upon</td>
</tr>
<tr>
<td>4. retro/version</td>
<td>backward, behind</td>
</tr>
<tr>
<td>5. sub/lingual</td>
<td>under, below</td>
</tr>
<tr>
<td>6. trans/vaginal</td>
<td>through, across</td>
</tr>
<tr>
<td>7. infra/costal</td>
<td>under, below</td>
</tr>
<tr>
<td>8. post/natal</td>
<td>after, behind</td>
</tr>
<tr>
<td>9. quadri/plegia</td>
<td>four</td>
</tr>
<tr>
<td>10. hyper/calcemia</td>
<td>excessive, above normal</td>
</tr>
<tr>
<td>11. primi/gravida</td>
<td>first</td>
</tr>
<tr>
<td>12. micro/scope</td>
<td>small</td>
</tr>
<tr>
<td>13. tri/plegia</td>
<td>three</td>
</tr>
<tr>
<td>14. poly/dipsia</td>
<td>many, much</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Word</th>
<th>Definition of Prefix</th>
</tr>
</thead>
<tbody>
<tr>
<td>15. ab/duction</td>
<td>from, away from</td>
</tr>
<tr>
<td>16. an/esthesia</td>
<td>without, not</td>
</tr>
<tr>
<td>17. macro/cyte</td>
<td>large</td>
</tr>
<tr>
<td>18. intra/muscular</td>
<td>in, within</td>
</tr>
<tr>
<td>19. supra/pelvic</td>
<td>above, excessive, superior</td>
</tr>
<tr>
<td>20. dia/rhea</td>
<td>through, across</td>
</tr>
<tr>
<td>21. circum/duction</td>
<td>around</td>
</tr>
<tr>
<td>22. ad/duction</td>
<td>toward</td>
</tr>
<tr>
<td>23. peri/odontal</td>
<td>around</td>
</tr>
<tr>
<td>24. brady/cardia</td>
<td>slow</td>
</tr>
<tr>
<td>25. tachy/pnea</td>
<td>rapid</td>
</tr>
<tr>
<td>26. dys/tocia</td>
<td>bad, painful, difficult</td>
</tr>
<tr>
<td>27. eu/pnea</td>
<td>good, normal</td>
</tr>
<tr>
<td>28. hetero/graff</td>
<td>different</td>
</tr>
<tr>
<td>29. mal/nutrition</td>
<td>bad</td>
</tr>
<tr>
<td>30. pseudo/cyesis</td>
<td>false</td>
</tr>
</tbody>
</table>

LEARNING ACTIVITY 3–2
Matching prefixes of position, number and measurement, and direction

1. retroversion 7. pseudocyesis
2. hypodermic 8. periodontal
3. prenatal 9. diarrhea
4. subnasal 10. ectogenous
5. postoperative 11. suprarenal
6. intercostal 12. hemiplegia

LEARNING ACTIVITY 3–3
Matching other prefixes

1. dyspepsia 7. amastia
2. heterosexual 8. anesthesia
3. panarthritis 9. eupnea
4. antibacterial 10. syndactylism
5. bradycardia 11. tachycardia
6. malnutrition 12. contraception

CHAPTER 4 — Body Structure

LEARNING ACTIVITY 4–3
Matching body cavity, spine, and directional terms

1. h. ventral cavity that contains digestive, reproductive, and excretory structures 3. j. part of the spine known as the neck
4. b. tailbone 5. m. away from the surface of the body; internal
6. f. turning outward 7. l. away from the head; toward the tail or lower part of a structure
8. i. turning inward or inside out
9. n. part of the spine known as the loin
10. a. pertaining to the sole of the foot
11. o. near the back of the body
12. e. lying horizontal with face downward

13. g. nearer to the center (trunk of the body)
14. d. toward the surface of the body
15. c. ventral cavity that contains heart, lungs, and associated structures

LEARNING ACTIVITY 4–4
Matching word elements

1. kary/o
2. dist/o
3. -graphy
4. -gnosis
5. leuk/o
6. viscer/o
7. jaund/o
8. hist/o
9. -genesis
10. infra-
11. ultra-
12. caud/o
13. dors/o
14. poli/o
15. eti/o
16. morph/o
17. xer/o
18. idi/o
19. ad-
20. somat/o

LEARNING ACTIVITY 4–5
Matching diagnostic and therapeutic terms and procedures

1. radiology
2. Doppler
3. ultrasonography
4. thoracoscopy
5. punch biopsy
6. endoscopy
7. nuclear scan
8. fluoroscopy
9. morbid
10. radionuclide
11. febrile
12. resection
13. suppurative
14. cauterize
15. ablation

MEDICAL RECORD ACTIVITY 4–1
Radiologic consultation: Cervical and lumbar spine

1. Why was the x-ray film taken of the cervical spine?
   To determine cervical curvature
2. Did the patient appear to have experienced any type of recent injury to the spine?
   No, there was no evidence of recent body disease or injury.
3. What cervical vertebrae form the atlantoaxial joint?
   The first cervical vertebra (atlas) and the second cervical vertebra (axis)
4. Was the odontoid process fractured?
   No, the odontoid process was intact.
5. What did the radiologist believe was the possible cause of the minimal scoliosis?
   Muscle spasm

MEDICAL RECORD ACTIVITY 4–2
Radiographic consultation: Injury of left wrist and hand

1. What is the abbreviation for anteroposterior?
   AP
2. What caused the soft tissue deformity?
   Fracture caused damage to surrounding tissue.
3. Why was an AP view of the humerus taken?
   To determine whether the elbow was fractured
4. Where are the left wrist fractures located?
   The distal shafts of the radius and ulna
5. Did the radiologist take any side views of the left elbow?
   Single view of the left elbow was obtained in the lateral projection.
CHAPTER 5 — Integumentary System

LEARNING ACTIVITY 5–2
Building medical words
1. adipoma, lipoma
2. adipocyte, lipocele
3. adipoid, lipoid
4. adipocyte, lipocele
5. dermatitis
6. dermatotome
7. onychoma
8. onychomalacia
9. onychosis
10. onychomycosis
11. onychocryptosis
12. onychopathy
13. trichopathy
14. trichomycosis
15. dermatology
16. dermatologist
17. adipectomy, lipectomy
18. onychectomy
19. onychotomy
20. dermatoplasty, dermoplasty

LEARNING ACTIVITY 5–4
Matching burn and oncology terms

1. i. redness of skin
2. i. no evidence of primary tumor
3. h. cancerous; may be life-threatening
4. g. heals without scar formation
5. f. determines degree of abnormal cancer cells compared with normal cells
6. a. develops from keratinizing epidermal cells
7. b. noncancerous
8. j. primary tumor size, small with minimal invasion
9. c. no evidence of metastasis
10. d. extensive damage to underlying connective tissue

LEARNING ACTIVITY 5–5
Matching diagnostic, symptomatic, procedure, and pharmacology terms

1. pediculosis
2. vitiligo
3. tinea
4. scabies
5. impetigo
6. urticaria
7. chloasma
8. ecchymosis
9. petechiae
10. alopecia
11. antifungals
12. fulguration
13. corticosteroids
14. dermabrasion
15. parasiticides
16. keratolytics
17. intradermal test
18. patch test
19. autograft
20. xenograft

MEDICAL RECORD ACTIVITY 5–1
Pathology report of skin lesion
1. In the specimen section, what does “skin on dorsum left wrist” mean?
Skin was obtained from the back or posterior surface of the left wrist.
2. What was the inflammatory infiltrate?
Lymphocytic inflammatory infiltrate in the papillary dermis
3. What was the pathologist’s diagnosis for the left forearm?
Nodular and infiltrating basal cell carcinoma near the elbow
4. Provide a brief description of Bowen disease, the pathologist’s diagnosis for the left wrist.
Bowen disease is a form of intraepidermal carcinoma (squamous cell), characterized by red-brown scaly or crusted lesions that resemble a patch of psoriasis or dermatitis.
MEDICAL RECORD ACTIVITY 5–2

Patient referral letter: Onychomycosis

1. What pertinent disorders were identified in the past medical history?
   History of hypertension and cancer
2. What pertinent surgery was identified in the past surgical history?
   Mastectomy
3. Did the doctor identify any problems in the vascular system or nervous system?
   Vascular and neurological systems were intact.
4. What was the significant finding in the laboratory results?
   Alkaline phosphatase was elevated.
5. What treatment did the doctor employ for the onychomycosis?
   Debridement and medication or Sporanox PulsePak
6. What did the doctor recommend regarding the abnormal laboratory finding?
   The doctor recommended a repeat of the liver enzymes in approximately 4 weeks.

CHAPTER 6 — Digestive System

LEARNING ACTIVITY 6–3

Building medical words

1. esophagodynia, esophagalgia
2. esophagospasm
3. esophagostenosis
4. gastritis
5. gastrodynia, gastalgia
6. gastropathy
7. jejunectomy
8. duodenal
9. ileitis
10. jejunooileal
11. enteritis
12. enteropathy
13. colitis
14. colorectal
15. coloenteritis, enterocolitis
16. colopath
17. colopathy
18. proctostenosis, rectostenosis
19. rectocele, proctocele
20. proctoplegia, proctoparalysis
21. cholecystitis
22. cholelithiasis
23. hepatoma
24. hepatomegaly
25. pancreatitis

LEARNING ACTIVITY 6–4

Building surgical words

1. gingivectomy
2. glossectomy
3. esophagoplasty
4. gastrectomy
5. gastrojejunostomy
6. esophagectomy
7. gastroenterocolostomy
8. enteroplasty
9. enteropexy
10. choledochorrhaphy
11. colostomy
12. hepatopexy
13. proctoplasty, rectoplasty
14. cholecystectomy
15. choledochoplasty
16. ileitis
17. jejunooileal
18. prostheses
19. proctocele
20. proctoparalysis
21. cholecystitis
22. cholelithiasis
23. hepatoma
24. hepatomegaly
25. pancreatitis

LEARNING ACTIVITY 6–5

Matching pathological, diagnostic, symptomatic, and related terms

1. hematemesis
2. dysphagia
3. fecalith
4. halitosis
5. anorexia
6. dyspepsia
7. cirrhosis
8. cachexia
9. obstipation
10. lesion
LEARNING ACTIVITY 6–6
Matching procedures, pharmacology, and abbreviations

1. pc, pp
2. bilirubin
3. emetics
4. bid
5. choledochoplasty
6. lower GI series
7. gastroscopy
8. stomatoplasty
9. intubation
10. anastomosis
11. stool guaiac
12. endoscopy
13. laxatives
14. antacids
15. ultrasonography
16. liver function tests
17. qid
18. stat
19. proctosigmoidoscopy
20. upper GI series

MEDICAL RECORD ACTIVITY 6–1
GI evaluation

1. While referring to Figure 6–3, describe the location of the gallbladder in relation to the liver.
   Posterior and inferior portion of the right lobe of the liver
2. Why did the patient undergo the cholecystectomy?
   To treat cholecystitis and cholelithiasis
3. List the patient’s prior surgeries.
   Tonsillectomy, appendectomy, and cholecystectomy
4. How does the patient’s most recent postoperative episode of discomfort (pain) differ from the initial pain she described?
   Continuous deep right-sided pain, which took a crescendo pattern and then a decrescendo pattern—the initial pain was intermittent and sharp.

MEDICAL RECORD ACTIVITY 6–2
Esophagastroduodenoscopy with biopsy

1. What caused the hematemesis?
   Etiology was unknown. Inflammation of the mucosa in the stomach and duodenum was noted.
2. What procedures were carried out to determine the cause of bleeding?
   During x-ray tomography using the videoendoscope, biopsies were taken of the stomach and duodenum. It was also noted that previously the patient had esophageal varices.
3. How much blood did the patient lose during the procedure?
   None
4. Were there any ulcerations or erosions found during the exploratory procedure that might account for the bleeding?
   No
5. What type of sedation was used during the procedure?
   Demerol and Versed administered intravenously
6. What did the doctors find when they examined the stomach and duodenum?
   Diffuse and punctate erythema

CHAPTER 7 — Respiratory System

LEARNING ACTIVITY 7–2
Building medical words

1. rhinorrhea
2. rhinitis
3. laryngoscopy
4. laryngitis
5. laryngostenosis
6. bronchiectasis
7. bronchopothy
8. bronchospasm
9. pneumothorax
10. pneumonitis
11. pulmonologist
12. pulmonary, pulmonic
13. dyspnea
14. bradypnea
15. tachypnea
16. apnea
17. rhinoplasty
18. thoracocentesis, thoracentesis
19. pulmonectomy, pneumonectomy
20. tracheostomy