

*Solutions Manual for Comprehensive
Medical Terminology for Health
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Solution and Answer Guide

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Table of Contents

LEARNING EXERCISES

Matching Word Parts 1	1
Matching Word Parts 2	1
Matching Word Parts 3	2
Matching Word Parts 4	2
Definitions	2
Matching Terms and Definitions 1	2
Matching Terms and Definitions 2	3
Which Word	3
Spelling Counts	3
Matching Terms	4
Term Selection	4
Sentence Completion	4
True/False	5
Word Surgery	5
Clinical Conditions	6
Which is the Correct Medical Term	7
Challenge Word Building	7
Labeling Exercises	8

Learning Exercises

Matching Word Parts 1

- 1.1 dys-
- 1.2 hyper-
- 1.3 -megaly
- 1.4 -algia
- 1.5 -ectomy

Matching Word Parts 2

- 1.6 -osis
- 1.7 -malacia

- 1.8 hypo-
- 1.9 -itis
- 1.10 -necrosis

Matching Word Parts 3

- 1.11 -rrhage
- 1.12 -ostomy
- 1.13 -otomy
- 1.14 -plasty
- 1.15 -rrhaphy

Matching Word Parts 4

- 1.16 -scopy
- 1.17 -ac
- 1.18 -stenosis
- 1.19 -sclerosis
- 1.20 -rrhea

Definitions

1.21 The term _____ describes any pathologic change or disease in the spinal cord.
myelopathy myopathy pyelitis pyrosis

Answer: myelopathy

1.22 The medical term for higher-than-normal blood pressure is _____.
hepatomegaly hypertension hypotension supination

Answer: hypertension

1.23 The term laser is called a/an _____ because it is made up of the initial letters of several words.

eponym sign acronym combining form

Answer: acronym

1.24 Pain is classified as a _____.
diagnosis sign symptom syndrome

Answer: symptom

1.25 In the term myopathy, the suffix -pathy means _____.
abnormal condition disease inflammation swelling

Answer: disease

Matching Terms and Definitions 1

- 1.26 leukocyte
- 1.27 prognosis
- 1.28 edema
- 1.29 acute
- 1.30 supination

Matching Terms and Definitions 2

- 1.31 palpation
- 1.32 exudate
- 1.33 lesion
- 1.34 palpitation
- 1.35 laceration

Which Word?

- 1.36 The medical term _____ describes an inflammation of the stomach.
gastritis gastrosis

Answer: gastritis

- 1.37 The formation of pus is called _____.
supination suppuration

Answer: suppuration

- 1.38 The term meaning wound or injury is _____.
trauma triage

Answer: trauma

- 1.39 The term _____ means pertaining to a virus.
viral virile

Answer: viral

- 1.40 An _____ is the surgical removal of the appendix.
appendectomy appendicitis

Answer: appendectomy

Spelling Counts

- 1.41 A disease named for the person who discovered it is known as an eponym.

Answer: eponym

- 1.42 A localized response to injury or tissue destruction is called inflammation.

Answer: inflammation

1.43 A fissure of the skin is a groove or crack-like sore of the skin.

Answer: fissure

1.44 The medical term meaning suturing together the ends of a severed nerve is neurorrhaphy.

Answer: neurorrhaphy

1.45 The medical term meaning inflammation of the tonsils is tonsillitis.

Answer: tonsillitis

Matching Terms

1.46 tendinitis

1.47 syndrome

1.48 tenorrhaphy

1.49 gastralgia

1.50 pyoderma

Term Selection

1.51 The abnormal hardening of the walls of an artery or arteries is called _____.

arteriosclerosis arteriostenosis arthrostenosis atherosclerosis

Answer: arteriosclerosis

1.52 A fever is considered to be a _____.

prognosis sign symptom syndrome

Answer: sign

1.53 An inflammation of the stomach and small intestine is known as _____.

gastralgia gastroenteritis gastritis gastrosis

Answer: gastroenteritis

1.54 The term meaning pain in a joint or joints is _____.

arthralgia arthritis arthrocentesis atherosclerosis

Answer: arthralgia

1.55 A _____ is a physician who specializes in diagnosing and treating diseases and disorders of the skin.

dermatologist dermatology neurologist neurology

Answer: dermatologist

Sentence Completion

1.56 A word _____ is a word part that usually indicates the part of the body involved.

Answer: root

1.57 A/An _____ word is a term made up of more than one word part.

Answer: compound

1.58 The word part attached at the end of a word is called a/an _____.

Answer: suffix

1.59 A combining _____ is added to the end of a word root to make the resulting term easier to pronounce.

Answer: vowel

1.60 The word part attached at the beginning of a word is called a/an _____.

Answer: prefix

True/False

1.61 An erythrocyte is commonly known as a red blood cell.

Answer: True

1.62 The Joint Commission publishes an official list of common medical abbreviations it recommends be used routinely.

Answer: False

Feedback: The Joint Commission, an organization founded in 1910 to standardize medical practices, publishes an official list of commonly confused “Do Not Use” abbreviations to prevent potentially fatal medical errors.

1.63 A colostomy is the surgical creation of an artificial opening between the colon and the body surface.

Answer: True

1.64 Malaise is often the first symptom of inflammation.

Answer: False

Feedback: Malaise is a feeling of general discomfort or uneasiness that is often the first indication of an infection or other disease.

1.65 An infection is the invasion of the body by a disease-producing organism.

Answer: True

Word Surgery

1.66 **Otorhinolaryngology** is the study of the ears, nose, and throat.

Answer: ot/o, rhin/o, laryng, -ology

1.67 The term **mycosis** means any abnormal condition or disease caused by a fungus.

Answer: myc, -osis

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

Answer: poli/o, myel, -itis

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

Answer: neo-, nat, -ology

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

Answer: end-, arteri, -al

Clinical Conditions

1.71 Miguel required a/an _____ injection. This term means that the medication was placed directly within the muscle.

Answer: intramuscular

1.72 Mrs. Tillson underwent _____ to remove excess fluid from her abdomen.

Answer: abdominocentesis

1.73 The term *laser* is a/an _____. This means that it is a word formed from the initial letters of the major parts of a compound term.

Answer: acronym

1.74 In an accident, Felipe Valladares broke several bones in his fingers. The medical term for these injuries is fractured _____.

Answer: phalanges

1.75 In case of a major disaster, Cheng Lee, who is a trained paramedic, helps perform _____. This is the screening of patients to determine their relative priority of need and the proper place of treatment.

Answer: triage

1.76 Gina's physician ordered laboratory tests that would enable him to establish a differential _____ to identify the cause of her signs and symptoms.

Answer: diagnosis

1.77 Jennifer plans to go to graduate school so she can specialize in _____. This specialty is concerned with the study of all aspects of diseases.

Answer: pathology

1.78 John Randolph's cancer went into _____. Although this is not a cure, his symptoms disappeared and he felt much better.

Answer: remission

1.79 Mr. Jankowski describes that uncomfortable feeling as heartburn. The medical term for this condition is _____.

Answer: pyrosis

1.80 Phyllis was having great fun traveling until she ate some contaminated food and developed _____. She felt miserable and needed to stay in her hotel because of the frequent flow of loose or watery stools.

Answer: diarrhea

Which is the Correct Medical Term?

1.81 The term _____ describes the surgical repair of a nerve.

neuralgia neurorrhaphy neurology neuroplasty

Answer: neuroplasty

1.82 The term _____ means loss of a large amount of blood in a short time.

diarrhea hemorrhage hepatorrhagia otorrhagia

Answer: hemorrhage

1.83 The term _____ means the tissue death of an artery or arteries.

arteriomalacia arterionecrosis arteriosclerosis arteriostenosis

Answer: arterionecrosis

1.84 The term _____ means between, but not within, the parts of a tissue.

Interstitial intrastitial intermuscular intramuscular

Answer: interstitial

1.85 The term _____ means enlargement of the liver.

Hepatitis hepatomegaly nephromegaly nephritis

Answer: hepatomegaly

Challenge Word Building

1.86 A medical specialist concerned with the diagnosis and treatment of heart disease is a/an _____.

Answer: cardiologist

1.87 The term meaning a runny nose is _____.

Answer: rhinorrhea

1.88 The term meaning the inflammation of a joint or joints is _____.

Answer: arthritis

1.89 A medical specialist in disorders of the newborn is a/an _____.

Answer: neonatologist

1.90 The term meaning a surgical incision into a nerve is a/an _____.

Answer: neurotomy

1.91 The term meaning inflammation of the heart is _____.

Answer: carditis

1.92 The term meaning pain in the nose is _____.

Answer: rhinalgia

1.93 The term meaning pain in a nerve or nerves is _____.

Answer: neuralgia

1.94 The term meaning a surgical incision into the heart is a/a _____.

Answer: cardiotomy

1.95 The term meaning an inflammation of the nose is _____.

Answer: rhinitis

Labeling Exercises

1.96 The combining form meaning spinal cord is _____.

Answer: myel/o

1.97 The combining form meaning muscle is _____.

Answer: my/o

1.98 The combining form meaning bone is _____.

Answer: oste/o

1.99 The combining form meaning nerve is _____.

Answer: neur/o

1.100 The combining form meaning joint is _____.

Answer: arthr/o

Instructor Manual

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TABLE OF CONTENTS

Purpose and Perspective of the Chapter	1
Chapter Objectives	2
Complete List of Chapter Activities and Assessments	2
Key Terms	3
Word Parts	3
Medical Terms	3
Additional activities and assignments	6
Medical Mystery for Chapter 1	6
SOAP note for chapter 1	8
Case Study for chapter 1	Error! Bookmark not defined.
Additional Resources	12
Cengage Video Resources	11

PURPOSE AND PERSPECTIVE OF THE CHAPTER

This introductory chapter presents the concept of learning word parts that comprise various complicated medical terms to facilitate building a medical terminology vocabulary. In addition to word parts, other foundations of medical terminology are set including standard abbreviations and the proper use of abbreviations, eponyms, and acronyms.

CHAPTER OBJECTIVES

The following objectives are addressed in this chapter:

1. Define word root, combining form, combining vowel, suffix, and prefix as they are used in medical word building.
2. Use your knowledge of word parts to analyze unfamiliar medical terms.
3. Describe the steps in locating a term in a medical dictionary or online resource.
4. State the importance of spelling medical terms correctly.
5. Define eponym.
6. Define acronym.
7. Explain how to determine which medical abbreviations are not safe to use.
8. Identify the medical word parts introduced in this chapter.
9. Define the primary terms introduced in this chapter.
10. Spell the primary terms introduced in this chapter.
11. Use the “sounds-like” pronunciation system to correctly pronounce the primary terms introduced in this chapter.

COMPLETE LIST OF CHAPTER ACTIVITIES AND ASSESSMENTS

Refer to the Learning Objectives Mapping document, posted in the instructor resources, for a comprehensive guide to how this chapter's learning activities and assessments support the learning objectives.

[\[return to top\]](#)

WORD PARTS AND KEY TERMS

WORD PARTS

-algia - pain, suffering

-dynia - pain

-ectomy - surgical removal, cutting out

-gram - picture or record

hyper- excessive, increased

hypo- deficient, decreased

-itis - inflammation

-osis - abnormal condition, disease

-ostomy - the surgical creation of an artificial opening to the body surface

pre- - before, in front of

-plasty - surgical repair

-rrhage - bleeding, abnormal excessive fluid discharge

-rrhaphy - surgical suturing

-rrhea - flow or discharge

-sclerosis - abnormal hardening

MEDICAL TERMS

abdominocentesis: the surgical puncture of the abdominal cavity to remove fluid

acronym: is a word formed from the initial letter of the major parts of a compound term

acute: rapid onset, a severe course, and a relatively short duration

angiography: is the process of producing an x-ray, or radiographic study, of blood vessels after the injection of a contrast medium to make these blood vessels visible

appendectomy: is the surgical removal of the appendix

arteriosclerosis: is the abnormal hardening of the walls of an artery or arteries

arthralgia: pain in a joint or joints

colostomy: is the surgical creation of an artificial excretory opening between the colon and the body surface

cyanosis: is blue discoloration of the skin caused by lack of adequate oxygen in the blood

dermatologist: is a physician who specializes in diagnosing and treating disorders of the skin

diagnosis: is the identification of a disease

diarrhea: is the frequent flow of loose or watery stools

edema: swelling

endarterial: means pertaining to the interior or lining of an artery

eponym: is a disease, structure, operation, or procedure named for the person who discovered or described it first

erythrocyte: is a mature red blood cell

fissure: is a groove or crack-like sore of the skin

fistula: is an abnormal passage, usually between two internal organs or leading from an organ to the surface of the body. A fistula may be due to surgery, injury, or the draining of an abscess

gastralgia: also known as a stomachache, means pain in the stomach

gastritis: inflammation of the stomach

gastroenteritis: is an inflammation of the stomach and small intestine

gastrosis: any disease of the stomach

hemorrhage: is the loss of a large amount of blood in a short time

hepatomegaly: is abnormal enlargement of the liver

hypertension: higher-than-normal blood pressure

hypotension: lower-than-normal blood pressure

infection: is the invasion of the body by a pathogenic organism

inflammation: is a localized response to an injury or to the destruction of tissues

interstitial: means between, but not within, the parts of a tissue

intramuscular: within the muscle

laceration: torn or jagged wound or an accidental cut

lesion: pathologic change of the tissues due to disease or injury

malaise: a feeling of general discomfort or uneasiness that is often the first indication of an infection or other disease

mycosis: describes any abnormal condition or disease caused by a fungus

myelopathy: describes any injury, degeneration or disease in the spinal cord

myopathy: describes any pathologic change or disease of muscle tissue

natal: pertaining to birth

neonatology: the study of disorders of the newborn

neurorrhaphy: suturing together the ends of a severed nerve

otorhinolaryngology: the study of the ears, nose, and throat

palpation: an examination technique in which the examiner's hands are used to feel the texture, size, consistency, and location of certain body parts

palpitation: pounding or racing heart

pathology: the study of all aspects of diseases

phalanges: the bones of the fingers and toes

poliomyelitis: a viral infection of the gray nerve tissue of the spinal cord

prognosis: prediction of the probable course and outcome of a disease

pyoderma: any acute, inflammatory, pus-forming bacterial skin infection such as impetigo

pyrosis: also known as *heartburn*, is discomfort due to the regurgitation of stomach acid upward into the esophagus

remission: the temporary, partial, or complete disappearance of the symptoms of a disease without having achieved a cure

sign: objective evidence of disease, such as a fever

supination: the act of rotating the arm so that the palm of the hand is forward or upward

suppuration: the formation of pus

supracostal: above or outside the ribs

symptom: subjective evidence of a disease, such as pain or a headache

syndrome: persistent, overwhelming fatigue of unknown

tenorrhaphy: the surgical suturing of a tendon

tonsillitis: an inflammation of the tonsils

trauma: wound or injury

triage: medical screening of patients to determine their relative priority of need and the proper place of treatment

viral: means pertaining to a virus

[\[return to top\]](#)

ADDITIONAL ACTIVITIES AND ASSIGNMENTS

MEDICAL MYSTERY FOR CHAPTER 1

FOSTER GRANT MEDICAL OFFICE

Name: Martinez, Leroy

DOB: 01/13/1969

Physician: James Foster MD

Symptoms: prominent obesity, elevated BMI, high blood pressure

The Story

Leroy is a 53 year old male presenting as a new patient. He has been feeling generally well for the past year. However, he has had profound depression with associated mania in the past. Today he presents to our internal medicine clinic for evaluation of his weight and blood pressure.

The Evaluation

The PA asked Jamal his health history and found it to be unremarkable. The examination did not reveal anything significant. The PA found that the pain in Jamal's leg was aggravated whenever he lifted or stretched his legs. Since x-rays of his back did not show any fractures, the PA prescribed pain medication and told him not to work too hard. Jamal continued to have back pain and some days could not go to

work. He tried applying pain-relieving creams to his back and even tried acupuncture—all to no avail.

The Diagnosis

Jamal finally requested a referral to our back clinic, and after our first meeting, I ordered a Magnetic Resonance Imaging study (MRI). He was too young for spinal stenosis, and there was no evidence of spondylolisthesis. In my opinion, the pain he was experiencing could be caused by a herniated intervertebral disk or a strained muscle. But the fact that the pain from his back radiated down the back of his leg made me suspect that Jamal had a pinched nerve. An MRI is excellent at identifying this type of neuropathic pain, and my hunch turned out to be correct.

The Treatment

I advised Jamal to wear a back brace for a few weeks, prescribed a stronger pain medication, and suggested that he avoid heavy lifting. Once the pain has subsided, I want Jamal to enroll in a short-term course of physical therapy. Hopefully these measures will help him avoid surgery. This is usually the last option for back pain as the results are often not very good.

Case Closed

Jamal followed my treatment instructions, and after six months, he was able to perform his lighter job duties regularly. I ordered a repeat MRI of his back, which revealed only a mild compression of the nerve. Jamal reported that even though the pain was still present, it was much more tolerable. Jamal is continuing in physical therapy, and he will follow up with his PA.

Questions

1. Use your knowledge of word parts to determine where an intervertebral disk is located.

Answer: The word part **inter-** means in between, **vertebral** means vertebrae, concluding that an intervertebral disk is in between vertebrae.

2. Many abbreviations can mean more than one thing. PA, for example, means Physician's Assistant; what else is PA an abbreviation for?

Answer: Pathology

3. Jamal has neuropathic pain. Use word parts to determine what this means.

Answer: The word parts **neur/o** meaning nerve, **path/o** meaning suffering, and **-ic** meaning pertaining to. In other words, the pain he is experiencing is related to a problem with a nerve.

4. Although the diagnosis of a pinched nerve was correct, the doctor considered several other possibilities. What is the plural of diagnosis?

Answer: The plural of **diagnosis** is diagnoses.

SOAP NOTE FOR CHAPTER 1

CHILDREN'S HOSPITAL OUTPATIENT CLINIC

Dr. Alpert

Patient name: Jenny Bleaker

MRN: BLEJEN001

Age: 16

Date of Service: 2/13/22

SOAP Note

SUBJECTIVE:

- generalized weakness, chills, poor appetite
- denies nausea

OBJECTIVE:

- 16-year-old female
- productive cough, runny nose for 2 days
- vital signs: blood pressure 118/68 (normal), pulse 78 and regular (normal), temperature 38.5°C (101.4°F) (fever)
- positive flu swab
- denies vomiting, diarrhea

ASSESSMENT:

- influenza (flu)

PLAN:

- Tylenol for fever, encourage rest and fluids, return if not better in 2 weeks

Questions

1. Jenny has weakness, chills and a poor appetite. All of these are explanations of medical problems she is having but they cannot be tested and defined. How can this be explained?

Answer: A **symptom** is subjective evidence of a disease, such as pain or a headache, that cannot be tested and defined, but can only be evaluated and measured by the patient.

2. The healthcare provider states that Jenny denies diarrhea. How do word parts help understand what diarrhea is?

Answer: Diarrhea is the frequent flow of loose or watery stools (dia- means through, and -rrhea means flow or discharge).

3. Does this patient have an acute or chronic condition? Give a definition for your choice.

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

CASE STUDY FOR CHAPTER 1

ADMISSION HISTORY AND PHYSICAL

Patient Name: Jonathan Jones

MR#: 44579

Attending Physician: Ajay Shah, M.D.

DOB: 12/24/94

HISTORY

Chief Complaint: 27 year old male presents with two days of worsening right lower quadrant belly pain, nausea, and vomiting.

History of Present Illness (HPI): Two days prior to admission, the patient began complaining of diffuse belly pain that initially felt like indigestion. Over the course of the day, this pain grew progressively worse, localizing in the right lower quadrant. This pain became constant and dull and radiated to the back. The evening prior to admission the patient was awakened by pain and nausea. He drank some Alka-Seltzer and attempted to return to sleep, shortly after which he began vomiting nonbloody or bilious emesis. Shortly thereafter, the patient decided to come to the ED [*emergency department*].

The patient indicates he did have a fever but did not take his temperature. He denies chills, testicular pain, blood in the stool, or recent weight change. The patient's last bowel movement was yesterday, with some small amounts of mucus but otherwise normal. He notes a history of irritable bowel syndrome. However, he states that this pain is different than the pain he has had in the past.

Past Medical History (PMH): Irritable bowel syndrome, last exacerbation 6 months ago. The rest of the past medical history is unremarkable.

Past Surgical History (PSH): Tonsillectomy and adenoidectomy in early childhood. Umbilical hernia repair at age 4.

Medications: None

Allergies: NKDA

Social History: The patient is employed as a computer programmer. He is married and has no children. He has a 10-year pack-history (in this case, 5 years, two packs a day) of smoking. He drinks alcohol rarely.

Family History: Both parents are alive and well. One sister has a history of GERD.

Review of Systems: 12-point review of systems was performed and was negative except for those items noted in the HPI above.

PHYSICAL EXAMINATION

General: The patient is an alert and oriented male appearing his stated age. He appears to be in moderate distress. Vital signs: blood pressure 132/78. Pulse 68 and regular. Temperature 38.56°C (101.4°F).

HEENT: Normocephalic, atraumatic. Pupils were equal, round, and reactive to light. Ears clear. Throat normal.

Neck: The neck is supple with no carotid bruits.

Lungs: The lungs are clear to auscultation and percussion.

Heart: RRR, no m/g/r.

Abdomen: Nondistended. Bowel sounds are normal. There is rebound tenderness on the left side, with discomfort and guarding upon palpation in the right lower quadrant, and positive psoas sign [*pain on extension of right thigh with patient lying on left side*].

Extremities: No clubbing, cyanosis, or edema, distal extremities warm and well perfused.

Laboratory Data: Hemoglobin 14.6, hematocrit 43.6, WBC 13,000, sodium 138, potassium 3.8, chloride 105, CO₂ 24, BUN 10, creatinine 0.9, glucose 102. Urinalysis was negative.

Diagnostic Studies: Flat plate and upright films of the abdomen revealed a diffuse small bowel distension with no evidence of free air in the abdomen. CT of the abdomen indicated a thickened cecal wall and dilated appendix.

Assessment/Impression: 27 yo male with PMH significant for irritable bowel syndrome presents with clinical signs of acute onset appendicitis.

Plan: The patient will be admitted and kept NPO, and a laparoscopic appendectomy will be performed in the morning.

Rogers, M.D.

Admission H and P performed and dictated by Dr. Ajay Shah for Dr. Rogers.

Questions

1. The patient has a fever; how is this medical condition classified?

Answer: A **sign** is objective evidence of disease, such as a fever

2. Physical examination of the patient reveals that there was no edema. What is edema?

Answer: Edema is swelling caused by an abnormal accumulation of fluid in cells, tissues, or cavities of the body.

3. Using what you've learned about word parts, describe the one of the surgeries listed in the patient's past surgical history.

Answer: Students may answer:

- **Tonsillectomy** is surgical removal of the tonsils, the suffix -ectomy describing surgical removal.
- An **appendectomy** is the surgical removal of the appendix (append means appendix, and -ectomy means surgical removal).

4. The physician describes that there was discomfort upon palpation of the abdomen, what does this refer to?

Answer: Palpation is an examination technique in which the examiner's hands are used to feel the texture, size, consistency, and location of certain body parts.

ADDITIONAL RESOURCES

CENGAGE VIDEO RESOURCES

- MindTap Videos: These videos appear in the MindTap Readings for this chapter and in the Video Library folder on the Learning Path.
 - Identify and Define Word Parts
 - Word-Building 101
 - Building Medical Terms from Given Definitions
 - Mnemonics and Memory Systems
 - Analyze and Define Medical Terms
 - Explain Some Basic Pronunciation Guidelines
 - Recognize and Pronounce Suffixes, Combining Forms and Prefixes

[\[return to top\]](#)