

Prefixes

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Learning Outcomes

At the end of this chapter, students are expected to be able to:

1. define a prefix
2. identify the functions of prefixes in medical terms
3. pronounce medical terms containing prefixes
4. use prefixes in medical terms
5. analyze medical terms into their components
6. write definitions of medical terms, diseases and medical procedures.

Prefixes

1 Medical Terms

A prefix is a letter or a group of letters attached to the beginning of a word to modify or change its meaning. Pre- in the word ‘prefix’ means before. Prefixes are common components of medical terms. They may indicate location, number, time, color and opposite meanings, etc. Prefixes are never used independently. They have to be added to the beginning of words with a hyphen. However, medical dictionaries nowadays drop the hyphen after many frequent prefixes. They can be added before verbs, nouns and adjectives to modify their meanings. Learning prefixes is essential to healthcare students because they are frequently used in building up medical terminology. Furthermore, they are necessary for understanding the meanings of medical terms. Most of the medical prefixes come from Latin or Greek origins and that is why they are commonly used in the international language of science and medicine.

Consider the following examples and note the different meaning that results when a new prefix is added to the same root.

| prefix | medical term | meaning |
|--------------------------|-----------------|----------------------------------------------|
| hypo- (beneath or below) | hypothyroidism | abnormally low activity of the thyroid gland |
| hyper- (over) | hyperthyroidism | over activity of the thyroid gland |
| a- (lack of) | apnea | cessation of breathing |
| dys- (difficulty) | dyspnea | difficulty in breathing |
| bi- (two) | bilateral | pertaining to two sides |
| uni- (one) | unilateral | pertaining to one side |

Combining forms

The following is a list of some combining forms to which a prefix can be added:

| Combining form | Meaning | example |
|----------------|-----------------|-------------------|
| an/o | anus | perianal |
| carp/o | wrist bone | metacarpal |
| cis/o | cutting | incision |
| cost/o | ribs | subcostal |
| crani/o | skull | extracranial |
| crin/o | secretion | endocrine |
| dactyl/o | fingers or toes | polydactyly |
| dur/o | dura mater | subdural hematoma |
| gen/o | produce | congenital |
| ign/o | fire | malignant |

| | | |
|------------|-----------------|-----------------|
| later/o | side | bilateral |
| lingu/o | tongue | sublingual |
| nat/i | birth | postnatal |
| norm/o | rule/order | abnormal |
| peritone/o | peritoneum | retroperitoneal |
| phag/o | appetite | polyphagia |
| phas/o | speech | aphasia |
| plas/o | formation | dysplasia |
| pleg/o | paralysis | quadriplegia |
| scapul/o | shoulder blades | subscapular |
| sect/o | cutting | resection |
| thyroid/o | thyroid hormone | hyperthyroidism |
| top/o | to put/place | ectopic |
| troph/o | development | atrophy |
| urethr/o | urethra | transurethral |
| uter/o | uterus | intrauterine |
| ven/o | vein | intravenous |
| vertebr/o | backbone | intervertebral |

2 Prefixes

The following tables display the different types of prefixes and their meanings with examples.

Table 3.1 Prefixes for Direction:

| prefix | meaning | example | meaning |
|--------|-----------|--------------|-------------------------------------------------|
| ab- | away from | abduct | to move away from the midline |
| ad- | toward | adjacent | being near or close |
| dia- | through | diameter | through measurement |
| trans- | through | transdermal | pertaining to through the skin |
| per- | through | percutaneous | capable of being penetrated by liquids or gases |

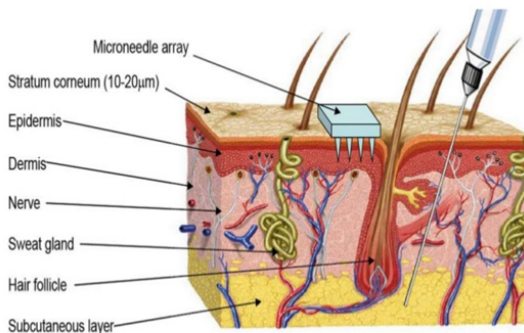


Figure 3.1: transdermal: pertaining to through the skin

Practice 3.1: Identify the prefix in each of the following words and write its meaning.

| | prefix | meaning |
|------------------|--------|---------|
| 1. adduct | _____ | _____ |
| 2. percolate | _____ | _____ |
| 3. dialysis | _____ | _____ |
| 4. adhere | _____ | _____ |
| 5. transurethral | _____ | _____ |
| 6. abnormal | _____ | _____ |

Table 3.2 Prefixes for Numbers

| prefix | meaning | example | meaning |
|---------|---------|----------------------|-------------------------------------|
| prim/i- | first | primitive primary | occurring first in time or sequence |
| mon/o- | one | monocular | a microscope with one lens |
| uni- | one | unilateral | one side |
| hemi- | half | hemiplegia | one side paralysis |
| semi- | half | semilunar | shaped like a half moon |
| bi- | two | bipolar | having two poles |
| di- | two | diatomic | having two atoms |
| dipl/o- | double | diplopia | pertaining to double vision |
| tri- | three | tripod | having three legs |
| quadri- | four | quadriplegia | paralysis of four limbs |
| tetra- | four | tetrad | four components |
| multi- | many | multicellular | consisting of many cells |
| poly- | many | polyphagia | excessive appetite |

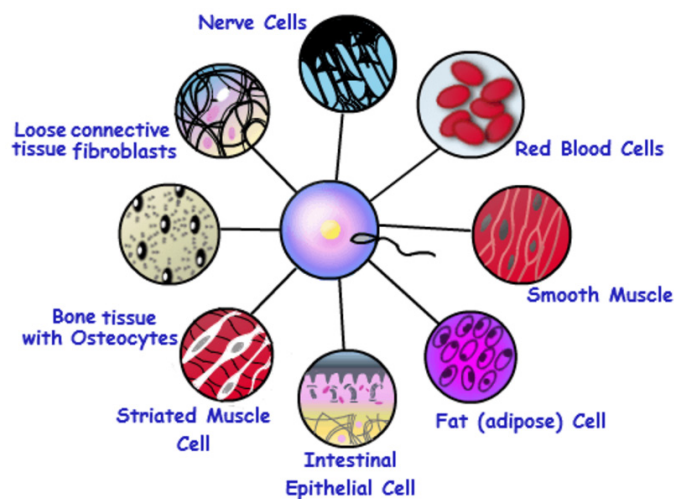


Figure 3.2: multicellular: consisting of many cells

Practice 3.2: Match each term in column A with its meaning in column B.

| | A | B |
|---|----------------------|------------------------------------------------|
| 1 | diploid _____ | a. an element that has one atom |
| 2 | polyneuropathy _____ | b. half solid |
| 3 | monoatomic _____ | c. disease of many nerves |
| 4 | unify _____ | d. make two or more in one parts |
| 5 | semisolid _____ | e. an organism that has two sets of chromosome |

Table 3.3 Prefixes for Colors

| prefix | meaning | example | meaning |
|-----------|-------------|---------------|------------------------------------------------|
| leuk/o- | white | leukoplakia | having white patches in the mouth |
| cyan/o- | blue | cyanosis | bluish discoloration of the skin |
| erythr/o- | red | erythrocyte | red blood cell |
| melan/o- | Black, dark | melanin | the dark pigment that colors the hair and skin |
| poli/o- | grey | poliomyelitis | inflammation of the gray matter of the brain |
| xanth/o- | yellow | xanthoderma | yellow coloration of the skin |
| cirr/h/o- | orange | cirrhosis | a disease of the liver |
| chlor/o- | green | chlorophyll | the green coloring matter of leaves and plants |



Figure 3.3: cyanosis: bluish discoloration of the skin

Practice 3.3: Define the following terms.

1. leukemia _____
2. xanthoma _____
3. melanocyte _____
4. erythrocytosis _____

Table 3.4 Prefixes for Time or Position

| prefix | meaning | example | meaning |
|--------|---------------------|--------------|-----------------------------------|
| ante- | before | antepartum | before birth |
| pre- | before, in front of | premenstrual | period before menstruation |
| pro- | before, in front of | prophase | first stage of cell division |
| Pros- | before, forward | prosthesis | artificial limb added to the body |
| post- | after, behind | postmortem | after death |

It is worth noting that certain prefixes have two meanings. For example, the prefix *ante-* may refer to time and position as in *ante partum* (time), and *antecubital* (position). Similarly, *pro-* refers to time as in *prophase* and position as in *prognathic*. This explains why we place prefixes for time and position together in one list. This will also be noticed in some of the following tables.

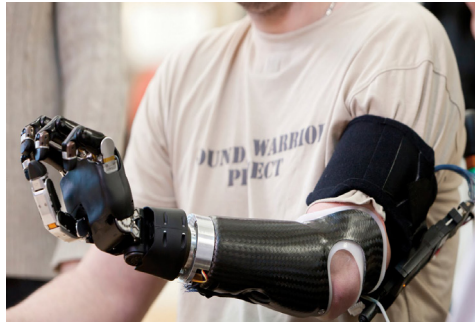


Figure 3.4: prosthesis: a device added to the upper limb after amputation

Practice 3.4: Define the following terms:

1. projectile _____
2. antefebriale _____
3. postmenopause _____
4. premature _____

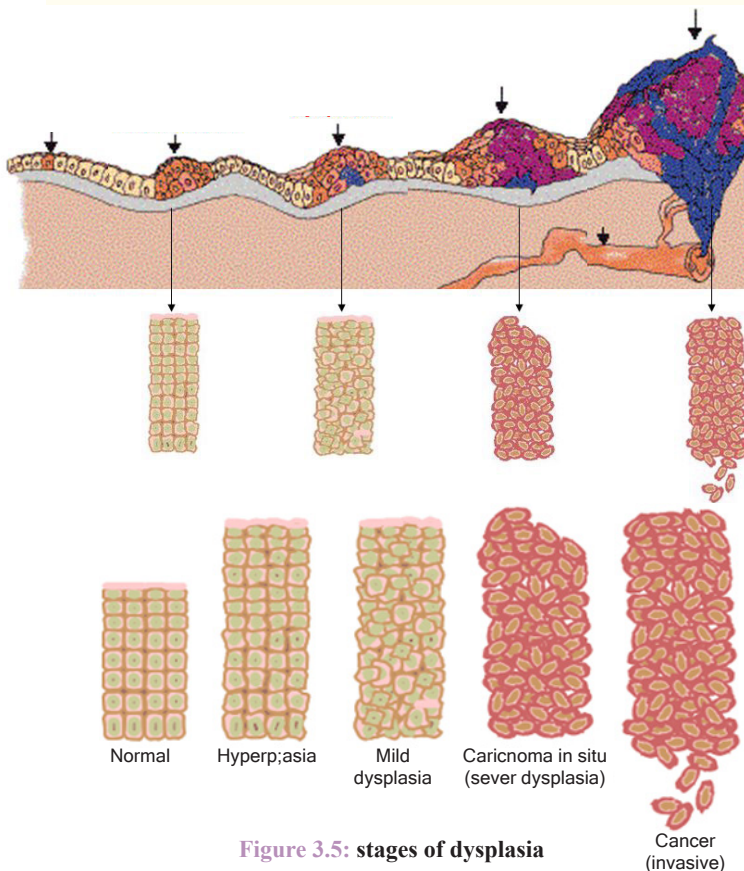


Figure 3.5: stages of dysplasia

Table 3.5 Prefixes for Disease

| prefix | meaning | example | meaning |
|--------|----------------------------------------|----------------------------------------|--------------------------------------------------------------------------------------------------------------------------|
| brady- | slow | bradycardia | decreased rate of electrical pacemaker activity in the stomach |
| tachy- | fast | tachycardia | rapid heart rhythm |
| pachy- | thick | pachydactyly | abnormal thickness of the fingers |
| mal- | bad, poor | malignant | cancerous tumor that spreads like fire |
| dys- | abnormal, difficult, painful, bad/poor | dysplasia, dyspnea, dysuria, dystrophy | -abnormal development in numbers -difficulty in breathing - painful sensation upon urination - poor development |
| xero- | dry | xeroma | excessive dryness of the cornea and conjunctiva |

Practice 3.5: The prefix *tachy-* means rapid. Use this prefix in a word that means each of the following:

1. rapid heart rate _____
2. rapid breathing _____
3. extreme rapidity of speech _____
4. abnormally rapid mental activity _____

Table 3.6 Prefixes for Infectious Diseases

| prefix | meaning | example | meaning |
|------------|-------------------|-----------------|------------------------------------------|
| staphyl/o- | grapelike cluster | staphylococcus | round bacteria that form clusters |
| strept/o- | twisted chain | streptobacillus | a rod-shaped bacterium that forms chains |

Table 3.7 Prefixes for Position and Direction

| prefix | meaning | example | meaning |
|---------|---------|-------------------|------------------------------------------------------------------------------------------|
| circum- | around | circumcision | circular cut |
| peri- | around | peritoneal | peritoneum |
| intra- | within | intravenous | within the vein |
| extra- | outside | extrahepatic | outside the liver |
| epi- | above | epidermis | above the skin |
| supra- | above | supraabdominal | above the abdomen |
| infra- | below | infrascapular | below the shoulder blades |
| sub- | below | subpatellar | below the kneecap |
| juxta- | near | juxtaposition | a location near another structure |
| para- | near | parathyroid gland | near the thyroid glands |
| inter- | between | interstitial | relating to or situated in the small, narrow spaces between tissues or parts of an organ |
| retro- | behind | retrogastric | behind the stomach |

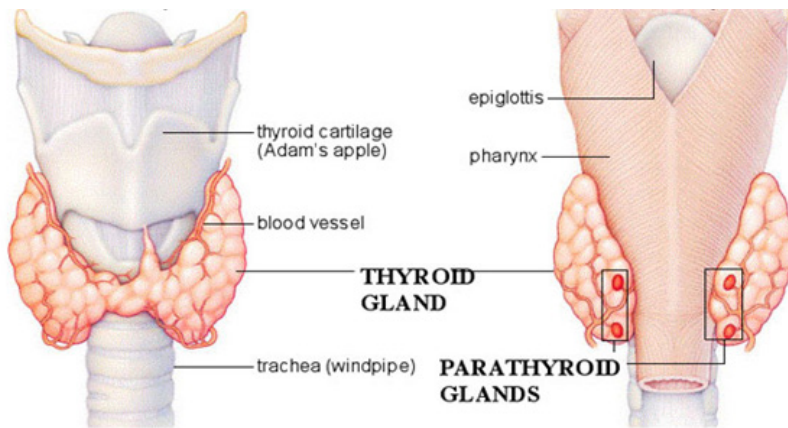


Figure 3.6: Parathyroid glands, four endocrine glands on the posterior of the thyroid gland

Practice 3.6: Replace the prefix in each of the following terms with another one having the same meaning.

1. circumoral _____
2. subcostal _____
3. periorbital _____
4. infrascapular _____

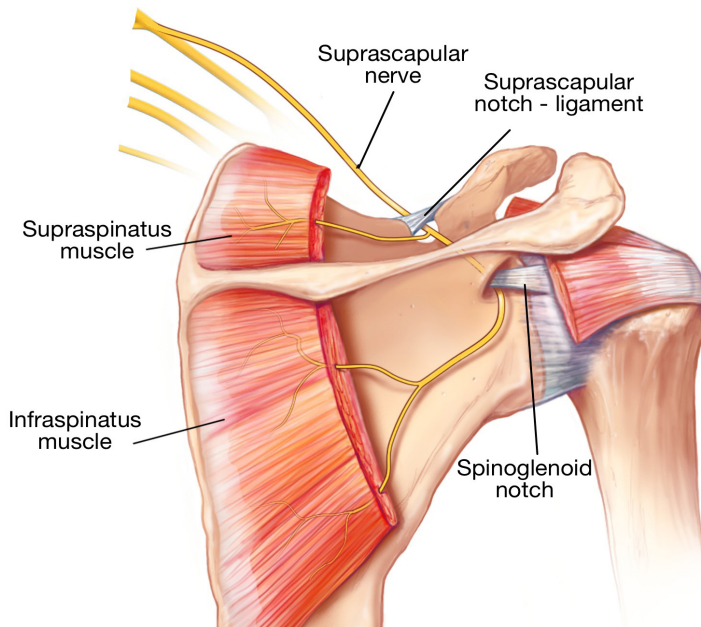


Figure 3.7: infrascapular: pertaining to below the shoulder blades

Practice 3.7: Write a word that means the opposite of each of the following terms:

1. suprapatellar _____
2. intracellular _____
3. suprascapular _____
4. hypogastric _____

Table 3.8 Prefixes for Negative

| prefix | meaning | example | meaning |
|----------|------------------------|------------------------------|-----------------------------------------------------------------------------------------|
| in-, im- | not | Insignificant impermeable | having no importance not allowing fluid to pass through |
| un- | not | unconscious | not aware of one's surroundings |
| non- | not | nonhuman | not appropriate to human being |
| a-, an- | not, lack, without | apnea anemia | cessation of breathing, no blood |
| anti- | against | antigen | a substance that when introduced into the body stimulates the production of an antibody |
| contra- | against | contraindicated | against recommendation |
| de- | down, without, removal | decongestant | a medication or treatment that decreases congestion, as of the sinuses |
| dis- | removal, separation | disinfect | to cleanse so as to destroy or prevent the growth of disease-carrying microorganisms |

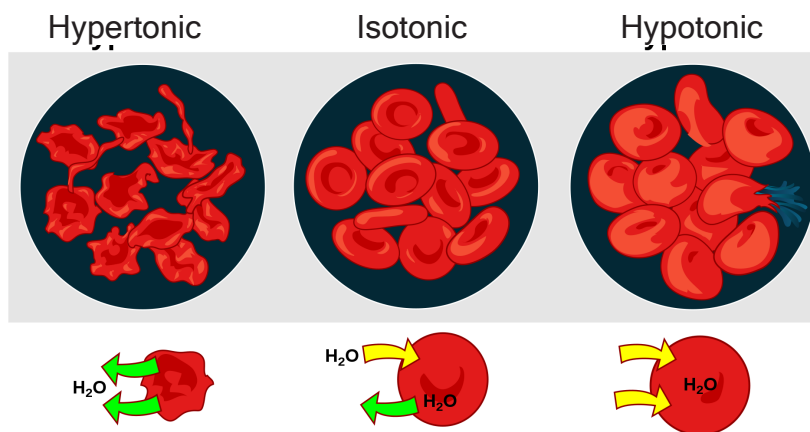


Figure 3.8: antigen, a foreign substance such as a bacterium or virus

Practice 3.8: Add a prefix to form the negative of the following words:

1. contributory _____
2. coordinated _____
3. calcify _____
4. compatible _____
5. dote _____
6. sect _____

7. ception _____
8. hydrous _____
9. mnesia _____
10. moral _____

Table 3.9 Prefixes for Position

| prefix | meaning | example | meaning |
|-----------------|----------|-------------------------------------|-----------------------------------------------------------------------------------------------------------------------|
| ecto- | outside | ectopic | out of normal position |
| ex/o- | outside | exophthalmos | (Graves' disease) protrusion of the eyeball to the outside |
| dextr/o- | right | dextrogastrica | displacement of the stomach to the right |
| sinistr/o- | left | sinistromanual | left handed |
| end/o- | inside | endometrial | within the uterus |
| mes/o- | middle | mesoderm | middle layer of a developing embryo |
| tel/o- tel/e | end | telophase telencephalon | last stage of cell division endbrain |
| syn-, sym- con- | together | syndrome symbiosis congenital | -group of signs and symptoms that occur together, - two dissimilar organisms living together - present at birth |

Table 3.10 Differences between Endocrine and Exocrine Glands

| Exocrine Glands | Endocrine Glands |
|-------------------------------------------------------------------------------|---------------------------------------------------------------------------|
| They are enzyme secreting glands. | They are hormone secreting glands. |
| The activity of the enzymes is short term | The action of released hormones is prolonged. |
| The secreted substances are directly released over the target site or tissue. | The secretions are released into blood stream. |
| Some of the examples include sweat glands, gastric glands, etc. | Some examples include adrenal gland, pituitary gland, thyroid gland, etc. |

The major glands that make up the human endocrine system include the:

- hypothalamus
- pituitary gland
- thyroid
- parathyroid
- adrenal glands
- pineal body
- reproductive glands (which include the ovaries and testes)
- pancreas

Examples of exocrine glands are:

- salivary glands that secrete saliva into the mouth
- bile-producing glands of the liver
- prostate gland
- the portion of the pancreas that secretes pancreatic fluid into the duodenum
- gastric glands
- sweat glands

Graves' disease symptoms

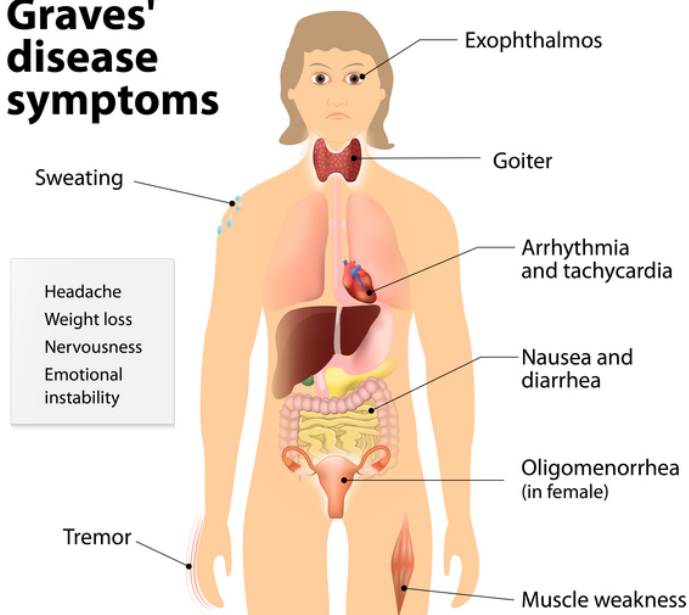


Figure 3.9: exophthalmos: bulging of the eyes

Practice 3.9: Define the following words:

1. endotoxin _____
2. exogenous _____
3. sympathetic _____
4. synapse _____

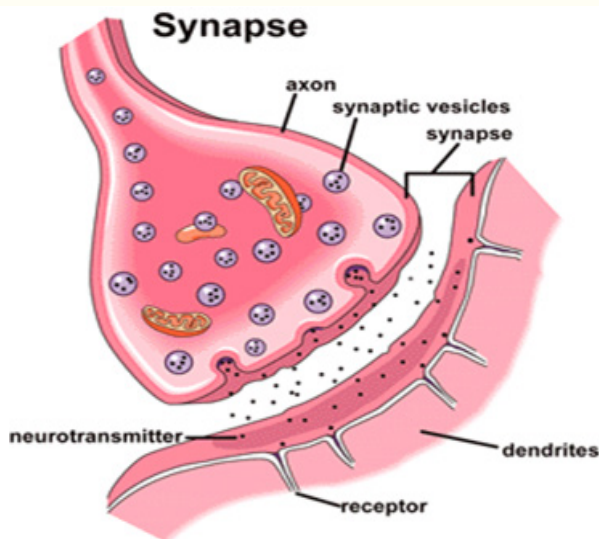


Figure 3.10: synapse: junction between two nerve cells

Table 3.11 Prefixes for Degree

| prefix | meaning | example | meaning |
|--------|-----------------|------------------------------|---------------------------------------------|
| oligo- | few | oligodontia | less than the normal number of teeth |
| pan- | all | panplegia | total paralysis |
| super- | above excess | supernumerary superscript | in excess number something written above |
| hyper- | abnormally high | hypertension | high blood pressure |
| hypo- | abnormally low | hypoglycemia | low blood sugar |

**Figure 3.11:** Oligodontia: having less than the normal number of teeth

Practice 3.10: The prefix *hyper-* means excessive. Use this prefix to produce a word that means each of the following:

1. overproduction of a hormone _____
2. abnormally deep respiration _____
3. high increase of cells in size _____
4. high increase of cells in numbers _____

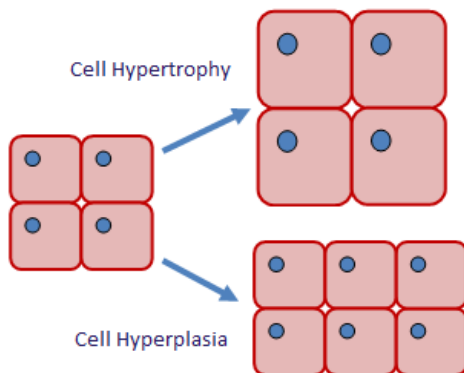
**Figure 3.12:** hypertrophy and hyperplasia: cells increase in size and increase in number

Table 3.12 Prefixes for Size and Comparison:

| prefix | meaning | example | meaning |
|-------------------|--------------------|--------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| equi- | equal, same | equicaloric | equal in terms of calories |
| iso- | equal, same | isochromatic | having the same color |
| homo- homeo | same, unchanging | homosexual, homeostasis | - having a sexual orientation to persons of the same sex. - a property of cells, tissues, and organisms that allows the maintenance and regulation of the stability |
| hetero- | different, unequal | heterosexual | a person whose sexual orientation is toward people of the opposite sex. |
| macro- | abnormally large | macroductyly | a condition of abnormally large fingers or toes |
| mega-, megalo- | abnormally large | megacephaly megalomania | - the condition of having an unusually large head or cranial capacity - a psychopathological condition characterized by delusional fantasies of wealth, power, or omnipotence |
| micro- | small | microbiology | the branch of biology that deals with microorganisms |
| eu- | true, good, easy | eupnea | normal breathing |
| normo- | normal | normothermic | having normal body temperature |
| ortho- | straight, correct | orthognathism | the condition of having straight jaws |
| poikilo- | irregular | poikilothermic | having different body temperature |
| pseudo- | false | pseudogene | a segment of DNA that resembles a gene but is not functional and usually not transcribed |
| re- | again, back | resection | cutting back and forth in a sense of removal |
| neo- | new | neocortex | the dorsal region of the cerebral cortex, especially large in primates, thought to have evolved more recently than other parts of the brain. |

**Figure 3.13:** macrodactyly: abnormally large fingers or toes

Practice 3.11: Match each of the following terms in column A with its definition in column B.

| | A | B |
|---|--------------------|------------------------------------|
| 1 | isocellular_____ | a. composed of different materials |
| 2 | homograft_____ | b. composed of identical cells |
| 3 | normovolemia_____ | c. false response |
| 4 | heterogeneous_____ | d. correcting deformity |

| | | |
|----|---------------------|-------------------------------------------------------------------------------|
| 5 | equilibrium_____ | e. return of partly digested food from the stomach to the mouth/backward flow |
| 6 | pseudoreaction_____ | f. a state of balance |
| 7 | euthyroidism_____ | g. normal production of thyroid hormone |
| 8 | regurgitation_____ | h. large enough to be seen without a microscope |
| 9 | poikiloderma_____ | i. tissue transplanted to another of the same species |
| 10 | macroscopic_____ | j. normal blood volume |
| 11 | orthotic_____ | k. irregular condition of the skin |

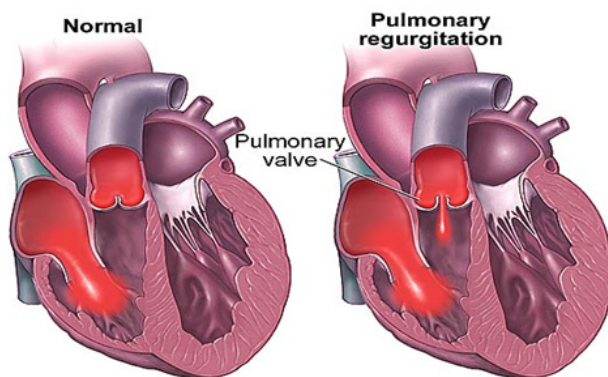


Figure 3.14: regurgitation: to cause to pour back

Table 3.13 Terms using different prefixes with the combining forms for fingers (dactyl/o)

| medical term | meaning |
|--------------|-----------------------------------------------------------------------------------|
| syndactyly | a congenital anomaly in humans marked by webbing or fusion of the fingers or toes |
| polydactyly | a person or animal having more than the normal number of digits |
| oligodactyly | congenital condition in which some fingers or toes are missing |
| tetradactyly | having four digits on each extremity |
| monodactyly | an animal having only one digit on each extremity |
| pachydactyly | enlargement of the fingers or toes, especially extremities |
| microdactyly | a condition of abnormal smallness of fingers or toes. |

3 Focus on Reading

Read the following text and answer the questions following it.

Nuclear Concepts Used in Medicine

1. Our bodies are made up of cells in which chemical processes of one form or another constantly occur. Whenever we suffer from injury or disease, the affected part of our body cannot properly carry out its chemical functions. In such instances, the diagnostician can introduce a radioactively labeled chemical called a radiopharmaceutical into the affected area, where it will take part in some of these chemical activities.

By detecting the gamma emissions from the radiopharmaceutical employed, we are able to produce useful information about the function and health of the organs that we are studying.

2. While most of the studies done in clinical nuclear medicine require the radiopharmaceutical to be injected into a vein (normally in the antecubital region), it may on occasion be inhaled, ingested, or injected through a catheter or other implanted device. Once the radiopharmaceutical has been administered to the patient, it travels through the body as though it were normally present. Since our bodies cannot distinguish a radiopharmaceutical from a normally present chemical, they handle it in the same way as it would a nonradioactive chemical. The only difference and advantage offered by the radiopharmaceutical is that the administered chemical can be detected externally.
3. A scintillation camera, which is able to map the distribution of the radiopharmaceutical within the patient's body, provides the images. These images, called scintigraphs or scintiscans, are produced when the gamma rays spontaneously emitted from the radiopharmaceutical escape from the patient's body. Each scintiscan is made up of hundreds of thousands of individual gamma ray interactions with the camera, and these many interactions are displayed as individual dots of light which are added together to form a single image.
4. Typically, images are recorded every 2 seconds immediately following the injection of the radiopharmaceutical. These initial images provide information on the arterial supply, capillary transit, and venous drainage of the organ or tissue of interest. After a period of time sufficient to permit the tissues to extract the radiopharmaceutical from the circulation, more images are recorded. These first images are called dynamic images, and the latter ones are called statics or delayed images.
5. The radiopharmaceutical used in the study of a particular organ must be chosen for its ability to accumulate in that particular organ. The choice also depends on the isolation of a chemical pathway or function that is peculiar to the organ that is to **be imaged**. For the most part, the label (the radioactive part of the pharmaceutical) used as a tag within the pharmaceutical doesn't affect its localization, and so materials are often labeled with gamma emitters that have the best combination of availability, energy, and half-life. A radionuclide called technetium-99m is frequently used because it can be produced onsite from a system called a generator.
6. The process of generation of Technetium-99m is a simple one: molybdenum-99 (99Mo) decays to form Technetium-99m. Since technetium-99m is chemically different from molybdenum, it is easy to separate the two. A small amount of molybdenum can produce enough technetium each day to meet the needs of a typical nuclear medicine department. Also, technetium-99m emits gamma radiation at an acceptable energy level of 140 Ke V. Although this level is higher than most X-rays, human tissue can **tolerate it** since gamma rays escape the body while x-rays tend to irradiate body tissues. The final reason for the popularity of this radionuclide is that it has a 6-hour half-life long enough to allow the radiopharmaceuticals to accumulate in the tissues of interest and short enough to permit repeat studies within a day or so. The combination of the low energy (by gamma ray standards) and short half-life also gives the patient an acceptably low radiation dose.
7. The radioactivity principle can also be used to detect and measure substances in blood or urine, substances that may be present in such small concentrations that conventional methods cannot detect them. This technique, termed radioimmunoassay (RIA), involves the production of antibodies specific to the substance being

measured, the isolation of a pure extract of this substance (termed the antigen), and the radioactive labeling of the antigen. By mixing known amounts of these substances with the patient sample and allowing the whole to come to equilibrium in a test tube, one can separate the unreacted antigen (both from the patient and the labeled antigen) from that which has bound to the antibody provided for that purpose. The ratio of free-to-bound antigens permits a calculation of the amount of material present in the patient's original sample. Tests performed on blood or urine samples requiring that the radioactive chemical be added to the sample but not the patient are termed **in vitro** tests. Those procedures requiring a radioactive chemical to be administered to the patient are called **in vivo** tests. **In vitro** techniques are commonly used to measure various hormone levels, drug levels, and concentrations of other compounds of medical interest.

A. Answer the following questions:

1. What does the italicized pronoun 'it' in **paragraph 6** refer to?
.....
2. What do the rays emitted from the radiopharmaceutical enable us to do?
.....
3. What is the main difference between the radiopharmaceutical and the normal chemical in the body?
.....
4. Define delayed images or 'statics'.
.....
5. Summarize **paragraph 5** in one sentence.
.....
6. What is the difference between **in vitro** tests and **in vivo** tests?
.....
7. Scan the text and find prefixes that mean
 - a. Against: _____
 - b. before: _____
 - c. between: _____
 - d. complete: _____
8. Circle the word that is closest in meaning to the highlighted word in **paragraph 6**?
a. reject b. accept c. accumulate d. radiate
9. Find a word that means "expose to radiation" in **paragraph 6**.
10. What is the meaning of the bold-faced word in **paragraph 5**?

B. Find words in the text that mean: _

1. A noun meaning "a person who determines the cause of a disease". (Para.1)
.....
2. An adjective meaning "A radioactive compound used in diagnosis or therapy". (Para.1)
.....

3. An verb meaning "To take into the body by the mouth for absorption". (Para.2)
.....
4. A noun meaning "Movement in a circle or circuit, especially the movement of blood through bodily vessels as a result of the heart's pumping action". (Para. 4)
.....
5. An adjective meaning "Not ordinary or usual; odd or strange". (Para. 5)
.....
6. A verb meaning "To gather or cause to increase". (Para. 6)
.....
7. A noun meaning "the condition existing when a chemical reaction and its reverse reaction proceed at equal rates". (Para. 7)
.....

4 Vocabulary Development

Medical Collocations

Practice 3.12: Match the word in column A with its complement in column B.
Write the letter of the correct answer on the line provided.

| (A) | (B) |
|-----------------------|-----------|
| 1. inoperable _____ | a. habits |
| 2. tender _____ | b. genes |
| 3. subjective _____ | c. tumor |
| 4. premature _____ | d. pain |
| 5. genetic _____ | e. neck |
| 6. hygienic _____ | f. voice |
| 7. hoarse _____ | g. report |
| 8. stiff _____ | h. infant |
| 9. intermittent _____ | i. skin |
| 10. defective _____ | j. trait |

Practice 3.13: Complete the following sentences using collocations from Exercise 3.12.

- a. She suffered from _____ after exposing herself to the sun.
- b. The doctor provided a _____ on the patient history of his brain tumor.
- c. He felt an _____ that kept recurring over and over again.

- d. The _____ died due to early birth.
- e. The young man died because of an _____.
- f. All doctors have _____ like using disposable tissues.
- g. The flu left him with a _____.
- h. He awoke with a painful _____.
- i. Fixing _____ should be welcome news to those who carry them.
- j. The father had a _____ that predisposed him to the development of cancer.

Practice 3.14: Match the words in column A with their collocates in column B. Write the correct answer on the line provided.

| A | | B |
|----|-----------------|---------------------|
| 1 | enhance _____ | a. the onset |
| 2 | maintain _____ | b. a drug |
| 3 | ease _____ | c. anxiety |
| 4 | identify _____ | d. physical fitness |
| 5 | Induce _____ | e. the appetite |
| 6 | go into _____ | f. infections |
| 7 | eradicate _____ | g. vomiting |
| 8 | tolerate _____ | h. antibodies |
| 9 | speed up _____ | i. nausea |
| 10 | relieve _____ | j. shock |

Practice 3.15: What can the following words collocate with?

1. trigger _____
2. enhance _____
3. cleanse _____
4. tolerate _____
5. strain _____

Academic Words

Study the following academic lists.

Academic List 1

| | <i>Words</i> | <i>Definitions</i> |
|----|--------------|------------------------------------------------------------------------------------------------------------------------------|
| 1 | Alternative | A choice or course of action that is mutually exclusive with another |
| 2 | Philosophy | the attitude or set of ideas that guides the behavior of a person or organization |
| 3 | justify | to give an acceptable explanation for something that other people think is unreasonable |
| 4 | publish | to make official information such as a report available for everyone to read |
| 5 | fund | an amount of money that is collected and kept for a particular purpose |
| 6 | react | to behave in a particular way or show a particular emotion because of something that has happened or been said |
| 7 | techniques | Non-prescriptive ways or methods used to perform missions, functions, or tasks |
| 8 | minor | small and not very important or serious, especially when compared with other things |
| 9 | outcome | the final result of a meeting, discussion, etc – used especially when no one knows what it will be until it actually happens |
| 10 | sequence | the order that something happens or exists in, or the order it is supposed to happen or exist in |

Academic List 2

| | <i>Words</i> | <i>Definitions</i> |
|----|--------------|--------------------------------------------------------------------------------------------------------|
| 1 | emphasize | to stress, single out as important |
| 2 | coordinate | to organize an activity so that the people involved in it work well together and achieve a good result |
| 3 | ensure | to make certain that something will happen properly |
| 4 | physical | related to someone's body rather than their mind or emotions |
| 5 | compensate | to pay someone money because they have suffered injury, loss, or damage |
| 6 | link | to make a connection between two or more things or people |
| 7 | sufficient | as much as is needed for a particular purpose |
| 8 | criteria | a standard that you use to judge something or make a decision about something |
| 9 | demonstrate | to show or prove something clearly |
| 10 | contribute | to give money, help, ideas etc to something that a lot of other people are also involved in |

Practice 3.16: Match the words in column A with their definitions in column B.

| A | B |
|-------------------|--------------------------------------------------------------------------------------------|
| 1. link_____ | a. to give an acceptable explanation for something that other people think is unreasonable |
| 2. criterion_____ | b. the attitude or set of ideas that guides the behavior of a person or organization |
| 3. publish_____ | c. to stress, single out as important |
| 4. justify_____ | d. a standard that you use to judge something or make a decision about something |

| | |
|----------------------|---------------------------------------------------------------------------------------------------------------------------------|
| 5. philosophy _____ | e. the order that something happens or exists in, or the order it is supposed to happen or exist in |
| 6. techniques _____ | f. to make a connection between two or more things or people |
| 7. outcome _____ | g. to make official information such as a report available for everyone to read |
| 8. emphasize _____ | h. to organize an activity so that the people involved in it work well together and achieve a good result |
| 9. sequence _____ | i. Non-prescriptive ways or methods used to perform missions, functions, or tasks |
| 10. coordinate _____ | j. the final result of a meeting, discussion, etc – used especially when no one knows what it will be until it actually happens |

Practice 3.17: Complete each of the following sentences using the correct word from the box.

| | | | | |
|-------------|-----------|------------|---------------|-----------|
| funded | outcomes | sequential | philosophical | justified |
| alternative | published | react | techniques | minor |

- His injuries were relatively _____, so he was released from the hospital within a couple of hours of being admitted.
- Faced with worsening health, and a doctor that didn't seem able to help him, Ali decided to try _____ medicine.
- Before we had a publicly-_____ universal health care system in Canada, many people could not afford medical care, or faced bankruptcy with a serious illness.
- Operations on animals helped to develop organ transplant and open-heart surgery _____.
- Studies have shown that babies in the womb will _____ to sudden loud noises or bright lights that are flashed on the mother's belly.
- Medical doctors usually take credit for actions which produce favorable _____, but blame the situation when their actions are questionable or lead to failure.
- My grandfather is very _____ about his illness; he certainly doesn't want to die, but he says he has lived a long life, and isn't afraid to go.
- We feel that animal testing should be reduced to a minimum and carefully _____ in each case.
- Protein synthesis is a _____ process in which DNA is transformed into protein.
- She has _____ a number of important papers in a leading medical journal.

Practice 3.18: Complete each of the following sentences using the correct word from the box.

| | | | | |
|-------------|--------------|--------------|--------------|-----------|
| Criteria | compensation | coordinate | demonstrated | emphasize |
| contributes | physical | sufficiently | ensure | link |

1. He _____ a lot of time and money to helping people with Parkinson disease.
2. Students in our medical program will be graded according to the _____ described in the course outline.
3. Eating plenty of fruits, vegetables, protein and dairy products will _____ your body gets the minerals it needs.
4. He received almost half a million dollars in _____ after his surgical malfunction.
5. Detectives were able to _____ the murderer to the crime using DNA evidence.
6. The Red Cross is trying to _____ relief efforts aimed at aiding the victims of Sunday's earthquake.
7. The best way to lose weight is to do regular _____ activity.
8. Recent studies have _____ that drinking green tea may help to prevent breast cancer.
9. Forgetting material which is stored in long-term memory cannot be _____ explained by the simple passage of time.
10. Doctors usually _____ the need for regular exercise to maintain good health.

5 Focus on Grammar

Asking questions

Healthcare students and practitioners always need to extend their repertoire of medical terminology in order to avoid communication breakdowns with others. They also need more focus on certain grammatical issues such as asking and answering questions and comparing and contrasting drugs and their effects on human body. In this section, students will be reminded of how to ask questions of different types about several medical issues.

Practice 3.19: Study the following questions and learn how to use each highlighted question word. Decide what it is used for and when we can use it.

Who is that man?

Who is the patient?

Who is his next of kin (closest relative)?

When did you hurt your arm?

When do you take your pills?

When did the pain start?

What do you do for a living?

What did you eat yesterday?

What did you do to your leg?

What makes the pain better?

What is the pain like?

How are you ?

How are you feeling?

How did you cut yourself?

How strong is the pain?

How long have you been having fever?

How long have you had the pain?

How many tablets do you take a day?

How many cigarettes do you smoke?

How much sleep do you get?

How often do you get regular exercise?

How often do you eat vegetables?

Why didn't you follow your doctor's instructions?

Whose medication is this?

Where do you live?

Where does it hurt you most?

Practice 3.20: Use each of the above highlighted question words or phrases in a question of your own on healthcare issues.

Practice 3.21: Ask questions to which the bold-faced words are answers.

1. The top of a person's **scalp** is covered with **hair**. (**What**)

.....

2. At the top and front of the upper body, just below the neck is the **collar bone**. (**Where**)

.....

3. The patient takes the medication **three times a day**. (**How often**)

.....

4. Jane has been pregnant **for five months**. (**How long**)

.....

5. The front of the lower leg is the **shin** and the back of the lower leg is the **calf**. (**what**)

.....

6. In many cases **specialists** require a **referral** from a family doctor before they will see a patient. (**who**), (**what**)

.....

7. The newborn baby sleeps **four times** every day. (**How often**)

.....

8. **Tylenol 3** is one of the painkillers available without prescription. (**which**)

.....

9. **Women giving birth** usually find that the epidural is the most effective pain relief. (**Who**)

.....

10. He looks **much worse** today because **the medicines he is taking don't seem to work.** (how), (why)

.....

.....

6 Oral Communication Skills

Practice 3.22: Study the following dialogue between a doctor and a patient and answer the questions following it orally.

Doctor: Hi Janet. How are you feeling today?

Patient: A bit better.

Doctor: That's good to hear. Are you still feeling nauseous?

Patient: No, I haven't felt sick since you switched my medication. My stomach is fine.

Doctor: Great. Say, your test results came in this morning.

Patient: It's about time. Is it good news or bad?

Doctor: I guess it's a bit of both. Which do you want first?

Patient: Let's get the bad news over with.

Doctor: Okay. It looks like you're going to need surgery to remove the tumor from your leg. After the operation you're going to have to stay off your feet for at least three weeks. That means no soccer.

Patient: I was afraid you were going to say that.

Doctor: Now for the good news. The biopsy shows that the tumor is benign, which means it's not cancerous. We're going to take it out anyway just to be on the safe side.

Patient: Wow, that's a load off my mind. Thanks Doctor.

Doctor: Don't get too excited. We still need to get to the bottom of all of this weight loss.

Patient: I've probably just been so worried about this stupid lump.

Doctor: These things often are stress related, but we're still going to do a few blood tests just to rule a few things out.

Patient: Things like what? Cancer?

Doctor: Actually, I'm thinking more along the lines of a food allergy.

A. Answer the following questions.

1. What was the woman suffering from?
2. Why did she have to switch medication?
3. What bad news did the doctor tell her?
4. What medical procedure has the woman already undergone?
5. Define the term *biopsy*?

6. Give the opposite of:
- *benign*: _____
 - *to lose weight*: _____

B. Act out the dialogue with a classmate.

7 Focus on Writing

Definition

Definitions may be brief or extended. A brief definition reflects the essence or primary characteristic of a term. The essence of an adjective, for instance, is that it is a part of speech that modifies a noun. On the other hand, an extended definition includes information beyond the essence or primary characteristic of a term. An extended definition of an adjective could include categories like size, shape, or color, etc., and an explanation of the various forms it takes such as comparative and superlative.

An extended definition essay should classify a term with relevant criteria, and use examples that focus on distinguishing the term from other closely related terms or concepts. The writer must decide what categories of information best distinguish the item or concept under scrutiny.

An appropriate range of examples can be the most direct way to identify and clarify a term.

Examples

stances and systems which include herbal preparations, mega-dose vitamins, homeopathy, naturopathy, osteopathy, aromatherapy, electromagnetic fields, acupuncture, chiropractic, hypnosis, bio-feedback, spiritual devotions, therapeutic touch, chelation therapy, and many more.

This extra information may include the properties of the defined item, an analysis of its parts, a physical description or its location. Furthermore, extra information may focus on the mode of operation of the item to be defined as in defining a diagnostic instrument: *Sonography* operates by the energy from sound waves being reflected off internal organs and transformed into an image on a TV-type monitor.

An object can also be clarified by indicating its functions or what it is particularly useful for, or by comparing and contrasting it to other members of the class:

The lung disease ‘emphysema’, which limits a patient’s ability to breathe, could be contrasted with ‘pneumoconiosis’, a disease which also results in breathing difficulty, but due to different causes and through a different process.

A definition may also include the causes of the defined item, or its results, or both:

Atherosclerosis is the condition where fatty deposits, called plaque, within the lining of an artery gradually build up and harden, causing a narrowing of the vessel, thereby reducing the blood flow to tissues. (Result) A primary factor in its development is the presence of cholesterol-containing lipoproteins.

Other risk factors include high blood pressure, smoking, inactivity and family history. (Causes)

Defining a term may involve a description of its process or procedures:

Angioplasty is the procedure commonly used in cases of atherosclerosis. This involves surgically removing the plaque to reopen a narrowed vessel and restore blood flow. The vessel is then kept open by the installation of a stent. This hinged metal or plastic device is inserted into the vessel with a deflated balloon inside it. Once in place, the balloon is inflated and the stent is forced open to a size which will keep the vessel wide. The balloon can then be deflated and removed, while the stent remains open and in place.

A medical term can also be defined by stating what it is not:

Alternative medicine incorporates a very broad category of medical systems. However, though it is sometimes treated as synonymous with complementary medicine, they are not the same. Complementary medicine intends to be used as a supplement to conventional treatment. This could involve having vitamin supplements or a health food diet while undergoing conventional medical treatment. On the other hand, alternative systems or treatments function to replace a conventional treatment. Acupuncture could be used instead of anesthesia during an operation. In some countries, like the US and Britain, alternative medicine is not taught in medical schools, is generally not used in hospitals, and is not covered by insurance. Many conventional medical professionals reject their safety and efficacy. Despite this, there is some professional interest. There are surgeons in the countries mentioned who use acupuncture instead of anesthesia, for instance. In the UAE, there is a government department which deals with alternative medicine. It is fair to say that its status is not fixed.

Practice 3.23: Write an extended definition of one of the following:

- | | |
|---------------------|--------------------|
| a. Endocrine glands | b. Exocrine glands |
| c. Graves' disease | d. Colonoscopy |

8 Pronunciation of Medical Terms

The following are the medical terms introduced in this chapter. You are supposed to read them aloud as many times as you need to master their pronunciation. These medical terms are recorded on a CD to help you learn the correct pronunciation. In this activity, you are also required to give the meaning of each term in order to retain them active in your memory.

Read the following medical terms and know their meanings.

| | | |
|--------------|------------|-----------------|
| abduct | antepartum | bradygastria |
| adduct | antigen | circumcision |
| adhere | aphasia | circumoral |
| adjacent | apnea | congenital |
| amenorrhea | atrophy | contraindicated |
| anemia | bilateral | cyanosis |
| antefebriale | bipolar | decongestant |

| | | |
|-----------------|-------------------|-------------------|
| dextrogastrica | isochromatic | primary |
| dialysis | juxtaposition | primitive |
| diameter | leukemia | projectile |
| diatomic | leukoplakia | prophase |
| diploid | macroductyly | prosthesis |
| diplopic | macroscopic | pseudogene |
| disinfect | malignant | pseudoreaction |
| dysplasia | megacephaly | quadriplegia |
| dyspnea | megalomania | regurgitation |
| dysuria | melanin | resection |
| ectocardia | melanocyte | retrogastric |
| ectopic | mesoderm | retroperitoneal |
| endocrine | metacarpal | semilunar |
| endometrial | microbiological | semisolid |
| endotoxin | microductyly | sinistromanual |
| epidermis | monoatomic | staphylococcus |
| equicaloric | monocular | streptobacillus |
| equilibrium | monodactyly | subcostal |
| erythrocyte | multicellular | subcutaneous |
| erythrocytosis | neocortex | subdural hematoma |
| eupnea | nonhuman | sublingual |
| euthyroidism | normothermic | subpatellar |
| exogenous | normovolemia | subscapular |
| exophthalmos | oligodactyly | supernumerary |
| extracranial | oligodontia | supraabdominal |
| extrahepatic | orthognathism | suprascapular |
| hemiplegia | orthotic | symbiosis |
| heterogeneous | pachyductyly | sympathetic |
| heterosexual | panplegia | synapse |
| homeostasis | parathyroid gland | syndactyly |
| homograft | percolate | syndrome |
| homosexual, | perianal | tachycardia |
| hypertension | periorbital | telencephalon |
| hyperthyroidism | peritoneal | telophase |
| hypochondriac | permeable | tetrad |
| hypogastric | poikiloderma | tetradactyly |
| hypoglycemia | poikilothermic | transurethral |
| hypothyroidism | poliomyelitis | tripod |
| incision | polyductyly | ultrasonography |
| infrascapular | polyneuropathy | unify |
| interstitial | polyphagia | unilateral |
| intervertebral | postmenopause | unusual |
| intracellular | postmortem | xanthoderma |
| intrauterine | postnatal | xanthoma |
| intravenous | premature | xeroma |
| isocellular | premenstrual | |

Name: _____ ID: _____

9 Review Exercises

A. Circle the best answer.

1. A prefix that means the same as *di-* is
a. tri b. uni c. bi d. mono
2. The prefixes *hemi-* and *semi-* mean
a. whole b. first c. two d. half
3. The prefix in *binocular* means
a. one b. three c. four d. two
4. The prefix in *nonexistent* means
a. slow b. complex c. equal d. not
5. A *neonate* is a(n)
a. teen b. adult c. preteen d. newborn
6. The prefixes *ante-*, *pre-*, and *pro-* all mean
a. after b. within c. under d. before
7. The prefix *tel/o-* means
a. together b. middle c. end d. apart
8. The prefixes *meta-* and *ultra-* mean
a. whole b. outside c. inside d. beyond
9. The prefix in *analysis* means
a. apart b. not c. separation d. breaking
10. The prefix in *pachycephaly* means
a. slow b. fast c. equal d. thickness

B. Write true or false before each statement.

1. The prefix in *leukocyte* means “irregular.” ()
2. The prefix in *percutaneous* means “on the skin.” ()
3. The prefix in *synthesis* means “apart.” ()
4. The last stage of cell division is prophase. ()
5. A prefix appears before a root and after a suffix. ()
6. A polysaccharide is composed of more sugar than a monosaccharide. ()
7. The prefix in *dissect* means “to separate.” ()
8. “Anti-” and “contra-” mean the same thing. ()
9. Right-handed people are dextromanual. ()
10. A telomere is found in the middle of a chromosome. ()
11. The prefix in *erythrocyte* means “red.” ()
12. The prefix in *periosteum* means “on the bone.” ()



C. Fill in the blank with the correct medical term.

1. Hypoxia causes a bluish discoloration of the skin is termed _____.
2. The prefix in *superciliary* means _____.
3. The prefix *poikilo-* means _____.
4. The prefix in the word *pachycephaly* means _____.
5. Total paralysis is _____.
6. Composed of similar cells is _____.
7. A group of four is _____.
8. Describing a colony derived from one cell is _____.
9. To separate tissues for anatomical study is called _____.
10. A mass of blood above the membrane surrounding the brain is _____.
11. Surgical puncture to remove fluid from the membrane surrounding the fetus is _____.

D. Write the word that means the opposite of each of the following:

1. hyperthermia _____
2. polyuria _____
3. incision _____
4. abduct _____
5. chronic _____
6. benign _____
7. hypopnea _____
8. epigastric _____
9. postmortem _____
10. atrophy _____
11. bradypnea _____

E. Identify the prefix and provide its meaning:

| | Prefix | meaning |
|-------------------|--------|---------|
| 1. normothermic | _____ | _____ |
| 2. quadruplet | _____ | _____ |
| 3. mesoderm | _____ | _____ |
| 4. euthyroidism | _____ | _____ |
| 5. poikilothermic | _____ | _____ |
| 6. malabsorption | _____ | _____ |
| 7. panplegia | _____ | _____ |
| 8. symbioses | _____ | _____ |

F. Write a word or a prefix that means the same as each of the following:

1. isolateral _____
2. megalocyte _____
3. supersensitivity _____
4. prenatal _____



5. para_____
6. circum_____
7. subcostal_____
8. ecto_____

G. Identify the prefixes or the combining forms in the following words and figure out what they mean.

| | Term | Prefix | Combining form | Meaning |
|-----|--------------|--------|----------------|---------|
| 1. | oliguria | | | |
| 2. | cyanosis | | | |
| 3. | erythropenia | | | |
| 4. | leukorrhea | | | |
| 5. | melanocyte | | | |
| 6. | endocrine | | | |
| 7. | fibroid | | | |
| 8. | morphology | | | |
| 9. | aphasia | | | |
| 10. | dysplasia | | | |
| 11. | eupnea | | | |
| 12. | peritoneum | | | |
| 13. | endoscopy | | | |
| 14. | angioectasis | | | |

H. Give the meaning of each of the following terms:

1. sublingual_____
2. retroperitoneal_____
3. aphasia_____
4. quadriplegia_____
5. intervertebral_____
6. hypochondriac_____
7. hypertension_____
8. congenital_____
9. dystrophy_____
10. transdermal_____
11. diplopia_____
12. polyphagia_____
13. postmortem_____
14. tachycardia_____
15. sinistromanual_____



I. Give the meaning of each of the following prefixes and give a medical term in which it is used.

| | Meaning | example |
|------------|---------|---------|
| 1. ab- | _____ | _____ |
| 2. ad- | _____ | _____ |
| 3. meta- | _____ | _____ |
| 4. para- | _____ | _____ |
| 5. con- | _____ | _____ |
| 6. anti- | _____ | _____ |
| 7. ante- | _____ | _____ |
| 8. inter- | _____ | _____ |
| 9. brady- | _____ | _____ |
| 10. pre- | _____ | _____ |
| 11. sub- | _____ | _____ |
| 12. hyper- | _____ | _____ |
| 13. dys- | _____ | _____ |
| 14. ec- | _____ | _____ |
| 15. intra- | _____ | _____ |
| 16. syn- | _____ | _____ |
| 17. epi- | _____ | _____ |
| 18. extra- | _____ | _____ |
| 19. trans- | _____ | _____ |
| 20. endo- | _____ | _____ |

J. Circle the correct answer.

- A prefix is found
 - at the beginning of a word
 - after the root
 - at the end of the word
 - before a hyphen
- The prefix multi- means
 - single
 - double
 - twice
 - many
- Which of the following has four components?
 - unicycle
 - polysaccharide
 - bicuspid
 - tetralogy
- Cyanosis refers to
 - dark coloration
 - blue coloration
 - thickness
 - shape
- A xanthoma is
 - green
 - blue
 - dark
 - yellow



6. The prefix in disintegration means
A. movement
C. few
B. separation
D. decreased
7. To detoxify means to
A. poison
C. remove toxins
B. confine
D. manufacture toxins
8. The prefixes dia-, per-, and trans- all mean
A. under
C. through
B. near
D. equal
9. The prefix pan- means
A. ever
C. excess
B. before
D. all
10. Which of the following means the same as equi-?
A. pseudo
C. ecto
B. megallo
D. iso
11. The prefix pseudo- means
A. good
C. even
B. large
D. false
12. The opposite of dextro- is
A. telo
C. megallo
B. sym
D. sinistro
13. The opposite of ectoderm is
A. endoderm
C. mesoderm
B. proderm
D. metroderm
14. The mesencephalon is the
A. surface of the brain
C. inner part of the brain
B. underneath part of the brain
D. middle portion of the brain
15. A word that describes organisms living together is
A. symbiosis
C. metabiosis
B. antibiosis
D. endobiosis
16. Interstitial fluid is found
A. inside cells
C. on the surface of the skin
B. between cells
D. under the brain
17. Metastasis is
A. a wasting of tissue
C. a form of infection
B. a form of anemia
D. spreading of cancer
18. An antipyretic is used to
A. increase body temperature
C. reduce pain
B. harden bones
D. reduce fever



19. An endotoxin is a
A. poison found within a cell
B. spreading cancer cell
C. substance produced by the immune system
D. poison secreted from a cell
20. The opposite of bradycardia is
A. dyscardia
B. xerocardia
C. cardiocele
D. tachycardia
21. In pachyemia the blood is
A. thin
B. light
C. deficient
D. thick
22. The term hyperbaric refers to
A. increased temperature
B. increased pressure
C. treatment with chemicals
D. decreased pressure
23. When a drug is contraindicated it is
A. given in double dose
B. given at night
C. recommended for treatment
D. not recommended for treatment
24. Polyarteritis is
A. constriction of two arteries
B. inflammation of many arteries
C. formation of tissue around arteries
D. removal of tissue from an artery
25. The scientific name for a “heart attack” is
A. myocardial infarction
B. endocarditis
C. pericardial occlusion
D. cardioversion
26. The epiglottis is the
A. lower end of the trachea
B. throat
C. cartilage around the bronchioles
D. cartilage that covers the trachea during swallowing
27. Orthopnea is
A. a rapid rate of breathing
B. a shallow depth of breathing
C. irregular breathing
D. difficulty in breathing unless upright
28. A decreased rate and depth of breathing is termed
A. hyperpnea
B. hypocapnia
C. hyperventilation
D. hypopnea
29. A temporary stoppage of breathing is
A. apnea
B. dyspnea
C. dysventilation
D. eupnea



30. The term perioral means
 A. above the nose
 B. within the sinuses
 C. around the mouth
 D. around the jaw
31. The term hemiglossal refers to
 A. the salivary glands in the cheek
 B. the position of the jaw
 C. one half of the tongue
 D. the upper part of the palate
32. Oliguria is
 A. excretion of a decreased amount of urine
 B. discoloration of the urine
 C. infection of the bladder
 D. narrowing of the ureter
33. Painful or difficult urination is
 A. nocturia
 B. pyuria
 C. uremia
 D. dysuria
34. A retrouterine structure is located
 A. under the uterus
 B. behind the vagina
 C. behind the uterus
 D. within the uterus
35. A congenital disorder
 A. is caused by viral infection
 B. is present at birth
 C. appears during childhood
 D. appears in a mother

Case report

HIV Infection and Tuberculosis

T.H., a 48-year-old-man, was an admitted intravenous (IV) drug user and occasionally abused alcohol. Over 4 weeks, he had experienced fever, night sweats, malaise, a cough, and a 10-lb weight loss. He was also concerned about several discolored lesions that had erupted weeks before on his arms and legs.

T.H. made an appointment with a physician assistant (PA) at the neighborhood clinic. On examination, the PA noted bilateral anterior cervical and axillary lymphadenopathy and pyrexia. T.H.'s temperature was 39°C. the PA sent T.H. to the hospital for further studies.

T.H.'s chest radiograph (x-ray image) showed paratracheal adenopathy and bilateral interstitial infiltrates, suspicious of tuberculosis (TB). His blood study results were positive for human immunodeficiency virus (HIV) and showed a low lymphocyte count. Sputum and bronchobacillus (AFB); a PPD (purified protein derivative) skin test result was also positive. Based on these findings, T.H. was diagnosed with HIV, TB, and Kaposi sarcoma related to past IV drug abuse.

A. Write the word or phrase from the text that has the same meaning as each of the following words or phrases:

1. within a vein _____
2. fever _____
3. Pertaining to both sides _____



4. Pertaining to the neck _____
5. Pertaining to the armpit _____
6. X-ray image _____
7. Near the trachea _____

B. Circle the letter of the most appropriate answer.

1. The term lymphadenopathy means:
 - a. a disease of the lymph
 - b. An enlargement of the lymph nodes, usually associated with disease
 - c. lymph nodes enlargement
 - d. a disease of a gland
2. The term interstitial means:
 - a. above the cells
 - b. under the cells
 - c. between the cells
 - d. within the cells
3. The word 'discolored' has the prefix _____
 - a. di
 - b. dis
 - c. ed
 - d. color
4. Provide the meaning for the following words.
 - a. immunodeficiency _____
 - b. infiltrate _____
 - c. sarcoma _____
 - d. adenopathy _____

10 Self-assessment

Check (✓) what you learned. If you need more information or practice, refer to the relevant section in the chapter.

- () I can define a prefix.
- () I can identify prefixes in medical terms.
- () I can differentiate between the prefixes that have similar meanings.
- () I can analyze medical terms into their constituents.
- () I can use prefixes in medical terms.
- () I can use certain medical collocations and academic words properly.
- () I can pronounce medical terms properly.
- () I can skim and scan medical texts for main ideas and details.
- () I can ask and answer questions pertaining to medical issues.
- () I can write brief definitions of medical terms, procedures, disease, etc.
- () I can spell and pronounce the new medical terms in the chapter.

