



جامعة شط العرب
كلية العلوم
قسم علوم التحليلات المرضية



LANGUAGE OF MEDICINE

إعداد:

م.م زهراء صبري جواد

الصف الالكتروني

• كود الكلاس

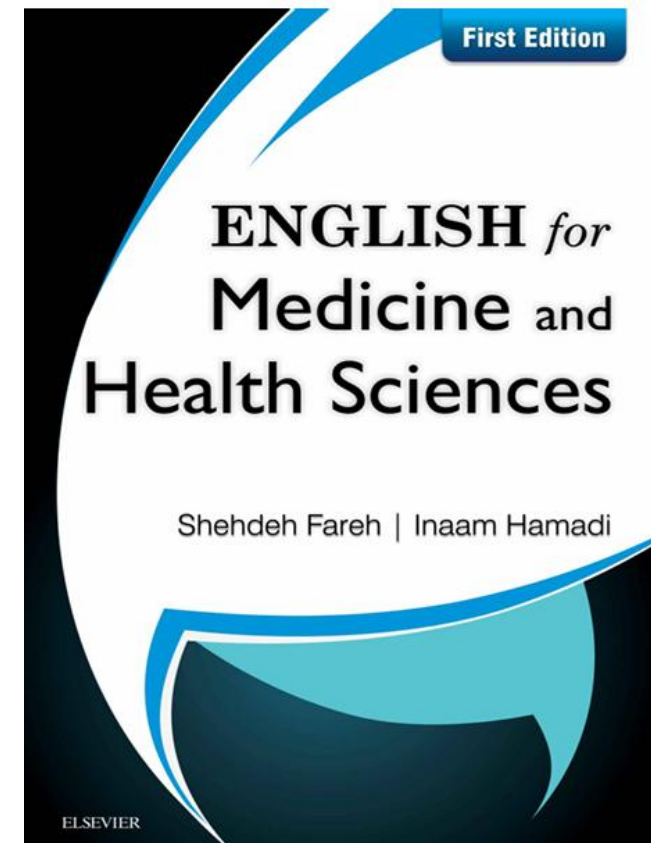
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References

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Difference Between a Word and a Term

1. Word

A word is the basic unit of language. It can be any vocabulary item used in everyday speech or writing (Cat –Book – happy e.g)

2. Term

A term is a special word or phrase used in a particular field, such as medicine, science, law, or technology. A term has a specific, precise meaning in that field. (Hypertension).

A term can be:

- one word (example: “diabetes”)
- two or more words (example: blood pressure)

Definition

- Medical Terminology?
- Medical terminology is a special vocabulary used by health care professionals for effective and accurate communication.
- Because it is based mainly on Greek and Latin words, medical terminology is consistent and uniform throughout the world.

Why Knowing Medical Terminology is Important?

- The object of medical terminology is to create a standardized language.
- This language allows medical professionals to communicate more effectively . It helps workers save time by ensuring that they do not have to describe in plain English complicated medical issues and concentrate on patient care.
- Another goal of Medical Terminology is to help minimize mistakes from poor communication or poor documentation, which can make a big difference in a patient's life.

Elements of medical terms

- **Prefix**– comes at the beginning, gives location, time, number, or status
- **Root** (or combining form)– main part that gives the core meaning
- **Suffix**– comes at the end, shows procedure, condition, or disease

Medical term forms

- Medical terms Are built from Word Parts.
- Example 1: Gastroenteritis gastr/o (stomach) + enter/o (intestine) + -itis (inflammation) → Gastroenteritis = inflammation of the stomach and intestines.
- Example 2: Hypoglycemia hypo- (below, deficient) + glyc/o (sugar) + -emia (blood condition) → Hypoglycemia = low blood sugar.
- Example 3: Osteoarthritis oste/o (bone) + arthr/o (joint) + -itis (inflammation) → Osteoarthritis = inflammation of the bone and joint.



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MEDICAL TERMS

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Medical terms

- Constituents of medical terms: Roots, suffixes, prefixes, and combining forms

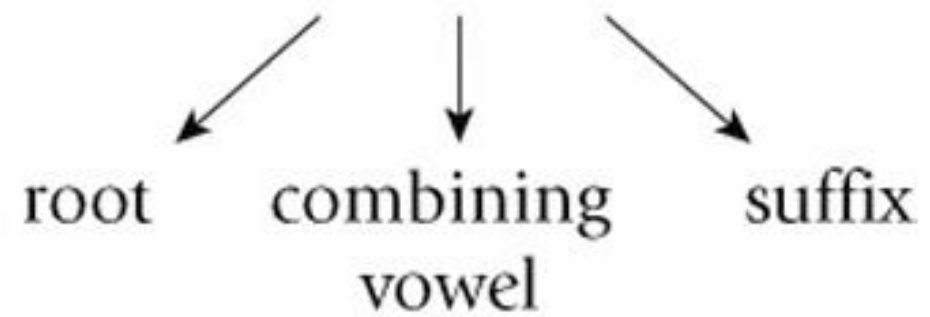
Roots

- The primary constituent of each medical term is the root that carries its basic meaning. Prefixes and suffixes can be added to the root to modify its meaning. A root is the part of a word that carries its basic meaning. The root in medical terms cannot stand alone to give a complete meaning. A prefix or a suffix may be added to it in order to make a full term that has meaning. This is due to the fact that most medical roots are borrowed from different source languages such as Latin and Greek. In the word *gastroscopy*, for example, the root is *gastr* (stomach) and *-scopy* is a *suffix* (visual examination). Adding the meaning of the suffix to that of the root will make up the entire meaning of the medical term *gastroscopy* (visual examination of the stomach).

Word Root Examples:

- Gastr-Stomach
- Cardi-Heart
- Arthr-Joint
- Cephal-Head
- Cyt-Cell
- Gyne-Woman
- Lingua-Tongue
- Thyr-Thyroid

Gastr/o/scopy



- A medical term may consist of one or more roots but only one suffix, as shown in **Table 1.2**. We can only add a prefix whenever we need to modify the meaning of the root.

Table 1.2

Medical Terms with One or More Roots

One root	hem/o/globin
Two roots	electr/o/cardi/o/gram
Three roots	ot/o/rhin/o/laryng/o/logy
Four roots	esophag/o/gastr/o/duoden/o/jejuno/stomy

Suffixes

- A **suffix** is a letter or group of letters added to the end of a word to change its meaning or to produce a new word (part of speech). For example, if the suffix **-tomy** (cutting into) is added to the root **gastr**, the resulting term **gastrotomy** will mean incision into the stomach. However, if the suffix **-ectomy** is added to the same root, the resulting term **gastrectomy** will mean excision of the stomach. Moreover, adding **-al** to the root **dent** (noun) produces **dental** (adjective). Notice the difference between **neuralgia**, **neuritis**, and **neuroplasty**. The meaning of each term differs from that of the other because of the different suffixes added to the same root **neur** which means nerve. The suffix **-algia** means having pain; **-itis** means inflammation; and finally **-plasty** means plastic repair.

- The first word means condition of having pain in the nerve; the second means inflammation of the nerve and third means plastic repair of the nerve. **Table 1.4** provides examples of commonly used but confused suffixes.

Table 1.4
Commonly Used but Confused Suffixes

Suffix	Meaning	Example	Meaning
-tome	instrument to incise (cutting into)	microtome	instrument for cutting thin sections of tissues for microscopic study
-tomy	incision (the process of cutting into)	laparotomy	incision into the abdomen
-ectomy	excision (the process of removal)	adenectomy	excision of a gland
-stomy	opening to the outside of the body (with one root)	tracheostomy	opening of the windpipe to the outside of the body
-stomy	communication (with more than one root)	colocolostomy	communication between two unconnected parts of the large intestine (anastomosis)
-scope	instrument to visually examine	arthroscope	instrument to visually examine joints
-scopy	visual examination	ophthalmoscopy	visual examination of eyes
-logy	study of	gynecology	study of women's diseases
-logist	specialist in the study and treatment of	nephrologist	specialist in the study of kidneys

Prefixes

- A **prefix** is a letter or a group of letters attached to the beginning of a root to modify its meaning. For example, the term *hyperglycemia* consists of a *prefix (hyper)*, a *root (glyc)*, and a *suffix (-emia)*. 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
hemi-	hemiplegia	paralysis of one side of the body
para-	paraplegia	condition of having lower half paralysis
quadri-	quadriplegia	condition of having paralysis in the four limbs
pan-	panplegia	condition of having total paralysis
pseudo-	pseudoplegia	condition of having false paralysis

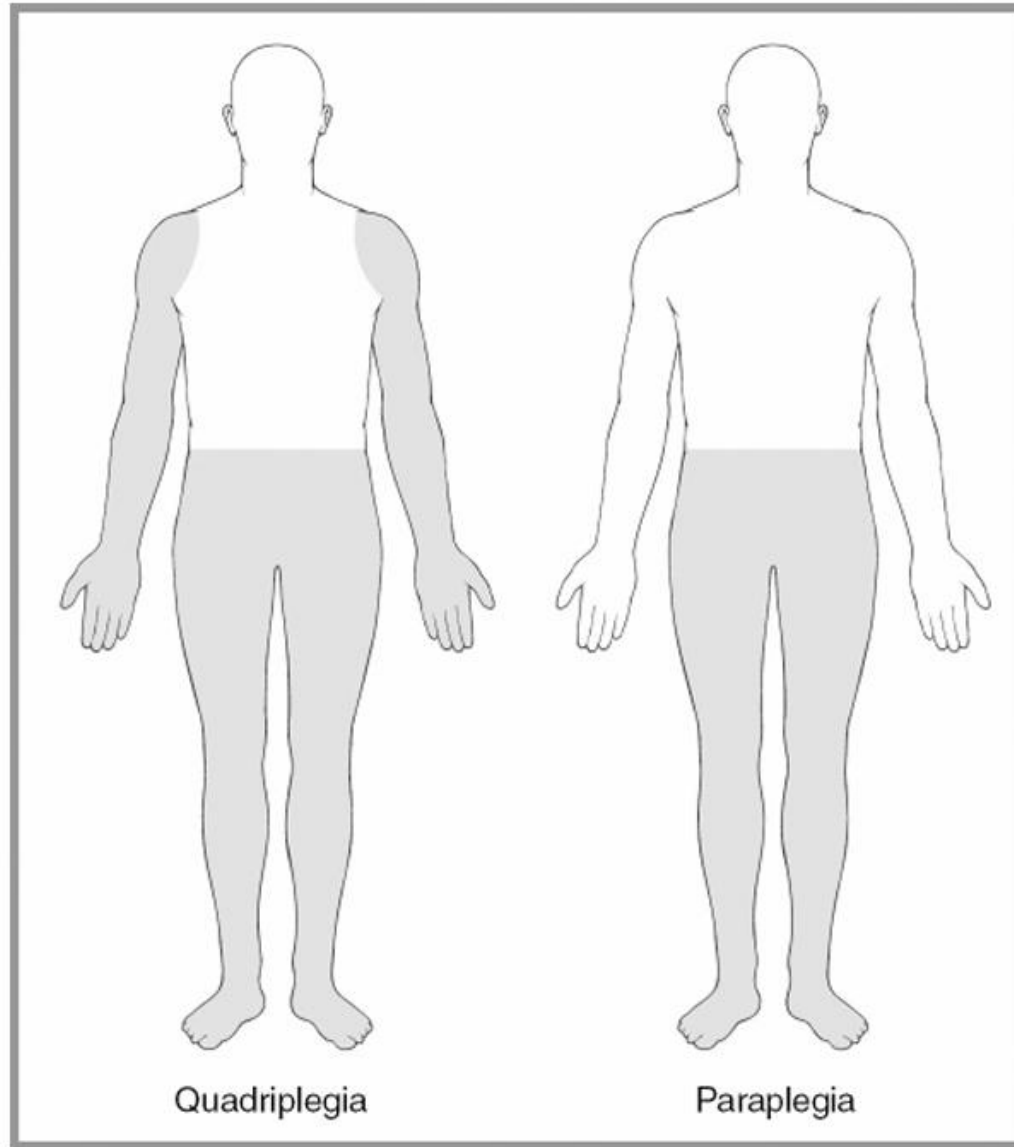


FIGURE 1.7 Quadriplegia: paralysis of the four limbs of the body.

- The root *cardi* may be preceded by two different prefixes. The addition of *brady-* (*slow*) and *tachy-* (*rapid*) to the same root results in two different terms: *brady/card/ia* (having slow heart rate) and *tachy/card/ia* (rapid heart rate). Similarly, the root *later* can be preceded by the prefixes *bi-* and *uni-* as in *bi/later/al*, which means pertaining to both sides, and *uni/later/al*, which means pertaining to one side.

Commonly used prefixes

Prefix	Meaning	Medical term	Meaning
a-/an-	not	apnea	_____
		anemia	_____
ante-	before	antenatal	_____
anti-	against	antibiotic	_____
ab-	away from	abnormal	_____
ad-	toward	adduct	_____
auto-	self	autopsy	_____
brady-	slow	bradycardia	_____
dia-	through/complete	diameter	_____
		diarrhea	_____
dys-	painful/difficult	dyspnea	_____
	poor/abnormal	dysuria	_____
endo-	within	endocrine glands	_____
exo-	outside	exocrine glands	_____
eu-	easy/true	eupnea	_____
hemi-	half	hemigastrectomy	_____
hyper-	excessive	hypertension	_____
hypo-	less than normal	hypotension	_____
macro-	very large	macroscopic	_____
mega-	abnormally large	megacolon	_____
multi-	many	multicellular	_____
peri-	surrounding	periosteum	_____
post-	after	postnatal	_____
pre-	before	prenatal	_____
pro-	before/forward	prodrome	_____
re-	back	resection	_____
retro-	behind	retrouterine	_____
sub-	below	sublingual	_____
tachy-	rapid	tachycardia	_____
trans-	across/through	transfusion	_____

Prefix	Meaning	Medical term	Meaning
a-/an-	not	apnea	_____
		anemia	_____
ante-	before	antenatal	_____
anti-	against	antibiotic	_____
ab-	away from	abnormal	_____
ad-	toward	adduct	_____
auto-	self	autopsy	_____
brady-	slow	brady cardia	_____
dia-	through/complete	diameter	_____
		diarrhea	_____
dys-	painful/difficult	dyspnea	_____
	poor/abnormal	dysuria	_____
endo-	within	endocrine glands	_____
exo-	outside	exocrine glands	_____
eu-	easy/true	eupnea	_____
hemi-	half	hemigastrectomy	_____
hyper-	excessive	hypertension	_____
hypo-	less than normal	hypotension	_____
macro-	very large	macroscopic	_____
mega-	abnormally large	megacolon	_____
multi-	many	multicellular	_____
peri-	surrounding	periosteum	_____
post-	after	postnatal	_____
pre-	before	prenatal	_____
pro-	before/forward	prodrome	_____
re-	back	resection	_____
retro-	behind	retrouterine	_____
sub-	below	sublingual	_____
tachy-	rapid	tachy cardia	_____
trans-	across/through	transfusion	_____

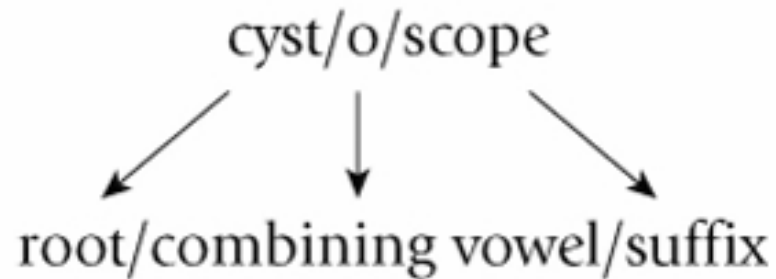
- When a suffix starting with a consonant is added to a root ending with a consonant, a vowel is added between the root and the suffix in order to ease the articulation of the resulting form. This **vowel** is referred to as the **combining vowel**. The root plus the **combining vowel** are called the **combining form**. The term *cystoscope*, for example, consists of the root *cyst-*, a combining vowel *-o* and the suffix *-scope*. However, the combining vowel is omitted if the suffix starts with a vowel as in *gastrectomy* (gastr + ectomy), *cephalic* (cephal + ic), *adenitis* (aden + itis), *neuralgia* (neur + algia), *carcinoma* (carcin + oma), and *hematuria* (hemat + uria).

Common combining forms

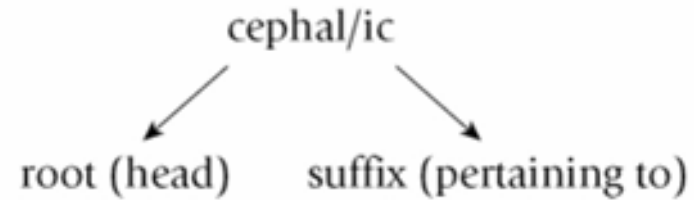
Combining Form ((الجزر))	Meaning ((المعنى))	Medical Term (المصطلح (الطبي))
angi/o	blood vessel ((وعاء دموي))	angiogram ((تصوير الأوعية))
arthr/o	joint ((مفصل))	arthritis ((التهاب المفاصل))
bronch/o	bronchial tube (الشعب (الهوائية))	bronchoscopy ((تنظير القصبات))
carcin/o	cancer ((سرطان))	carcinoma ((ورم سرطاني))
cardi/o	heart ((قلب))	cardiologist ((طبيب قلب))
chron/o	time ((وقت/زمن))	chronic ((مزمن))

Examples

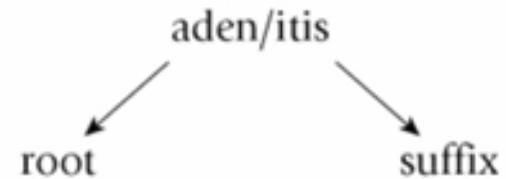
- cyst (root): urinary bladder
- o (combining vowel): does not add anything to meaning.
- scope (suffix): instrument to examine a body organ visually
- Cystoscope is an instrument to visually examine the urinary bladder.



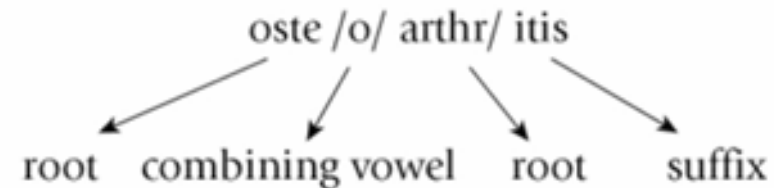
- Notice that the combining vowel is omitted because the suffix -ic begins with a vowel as in:



Similarly,



In this context, it is worth noting that the combining vowel is retained if a root is added to another root even though the second root begins with a vowel as in:



Leukocytopenia قلة الكريات الحمر

Word Roots: Leuk (white)
 cyt (cell)

Combining Vowel: 0

Suffix: penia (decrease)

Scler/o/derma (hardening of the skin)

Word root: scler (hardening)

Suffix: derma (skin)

Combining vowel: O

oma (tumor) ورم

Hematoma (blood tumor)

Practice 1.1 Form medical words from the following prefixes, combining forms, and suffixes. Delete unnecessary components.

- a. electr/o/encephal/o/gram _____
- b. enter/o/itis _____
- c. nephro/ectomy _____
- d. ophthalm/o/scope _____
- e. trans/urethr/o/al _____
- f. retro/gastr/o/ic _____
- g. bi/o/opsy _____
- h. hyper/thyroid/o/ism _____
- i. arthr/o/algia _____
- j. cerebr/o/vascul/o/ar _____

Practice 1.2 Write the medical term for each of the following definitions.

- a. The study of women's diseases is called _____.
- b. Record of electricity in the brain is called _____.
- c. Low level of hormone from a gland in the neck is called _____.
- d. An instrument that examines the patient's eye is called _____
- _____.
- e. Pertaining to behind the stomach _____.

Practice 1.3 Divide the following terms into their component parts and provide the meaning of the whole term.

Medical Term	Prefix	Combining Form 1	Combining Form 2	Suffix	Meaning
gastroenterologist					
hemigastrectomy					
myosarcoma					
antibiotic					
sublingual					
dysuria					
neuralgia					
hypoglycemia					
psychology					
dermatologist					



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READING MEDICAL TERMS

إعداد:

م.م زهراء صبري جواد

Reading medical terms

- Reading a medical term in order to get its meaning is quite easy. You should always start from the end, then move to the beginning, and across the term. A word such as **electr/o/encephal/o/graphy** consists of two roots, two combining vowels and a suffix. We start reading from the last part (**-graphy**), which means act of recording; then we move to the first part (**electr/o**), which means electricity; and finally (**encephal/o**), which means brain. The entire word means the act of recording the electrical activity in the brain.

- Notice that if you read medical terms backward, you will change the whole meaning of the term. Consider the meaning of the following two words (reading from the suffix, back to the beginning of the term). If the **word hemat/o/ur/ia** is read backward, it will mean condition of having urea in the blood, which is wrong because this condition is called **ur/o/em/ia**. Therefore, a medical term has to be read from the end and then to the beginning and across not backward. Thus, the meaning of **hematuria** is a condition of having blood in the urine, whereas **uremia** means a condition of having urea in the blood. A medical term may not always consist of prefix + root + suffix. In fact, it can be made up of different combinations as shown in the Tables 1.7–1.12:

Table 1.7

Terms Using One Root + Suffix

Root	Suffix	Term	Meaning
ren	-al	renal	pertaining to a kidney
mast	-ectomy	mastectomy	excision of a breast
hepat	-itis	hepatitis	inflammation of the liver
gastr	-ic	gastric	pertaining to the stomach
neur	-algia	neuralgia	condition of having pain in the nerves

Table 1.8**Terms Using One Root + Combining Vowel + Suffix**

Root	Combining Vowel	Suffix	Term	Meaning
neur	o	-logy	neurology	study of the nervous system
arthr	o	-scope	arthroscope	instrument to visually examine the joint
bi	o	-opsy	biopsy	removal of a living tissue and viewing it under a microscope
dermat	o	-sis	dermatosis	abnormal condition of the skin
cyst	o	-scopy	cystoscopy	visual examination of the urinary bladder

Table 1.9

Terms Using Root + Combining Vowel (V) + Root + Combining Vowel + Suffix

Root	V	Root	V	Suffix	Term	Meaning
aden	o	carcin	o	-oma	adenocarcinoma	cancerous tumor of a gland
electr	o	encephal	o	-gram	electroencephalogram	record of the electrical activity in the brain
duoden	o	jejun	o	-stomy	duodenojejunostomy	communication between the first and second part of the small intestine (anastomosis)

Table 1.10

Terms Using Root + Combining Vowel + Root + Suffix

Root	Vowel	Root	Suffix	Term	Meaning
oste	o	myel	-itis	osteomyelitis	inflammation of bone and bone marrow
gastr	o	enter	-itis	gastroenteritis	inflammation of the stomach and small intestine
cerebr	o	vascul	-ar	cerebrovascular	pertaining to the blood vessels of the largest part of the brain (cerebrum)

Table 1.11**Terms Using Prefix + Root + Suffix**

Prefix	root	suffix	term	meaning
dys-	enter	-y	dysentery	painful intestine (disorder of a digestive track)
brady-	cardi	-ia	bradycardia	slow heart rate
bi-	later	-al	bilateral	pertaining to both sides
hemi-	gastr	-ectomy	hemigastrectomy	excision of half of the stomach
trans-	derm	-al	transdermal	pertaining to across the skin

Table 1.12**Terms Using Prefix + Root + Combining Vowel (V) + Suffix**

Prefix	Root	V	Suffix	Term	Meaning
dys-	men	o	rhea-	dysmenorrhea	painful menstrual flow
a-	men	o	rhea-	amenorrhea	lack of menstrual flow
anti-	bi	o	tic-	antibiotic	substances that are produced outside the body by microorganisms and primitive plants called molds

Spelling of medical terms

- Correct spelling to writing is as important as correct pronunciation to speaking. Misspelling medical terms may lead to wrong meanings or to life-threatening situations such as death or serious injury to patients. Therefore, it is necessary that you learn the correct spelling of the terms you use in your field. When in doubt about the spelling of a term, you should not hesitate to consult your medical dictionary.

Table 1.13

The “rh” Rule

When a suffix beginning with the letters “rh” is added to a root, the letter “r” is doubled.

Root	Suffix	Term	Meaning
men	rhea-	menorrhea	normal menstrual flow or discharge
hem	rhage-	hemorrhage	excessive bleeding
hemat	rhagia-	hemorrhagia	bursting forth of blood
arteri	rhaphy-	arteriorrhaphy	suture of an artery
my	rhexis-	myorrhexis	rupture of a muscle

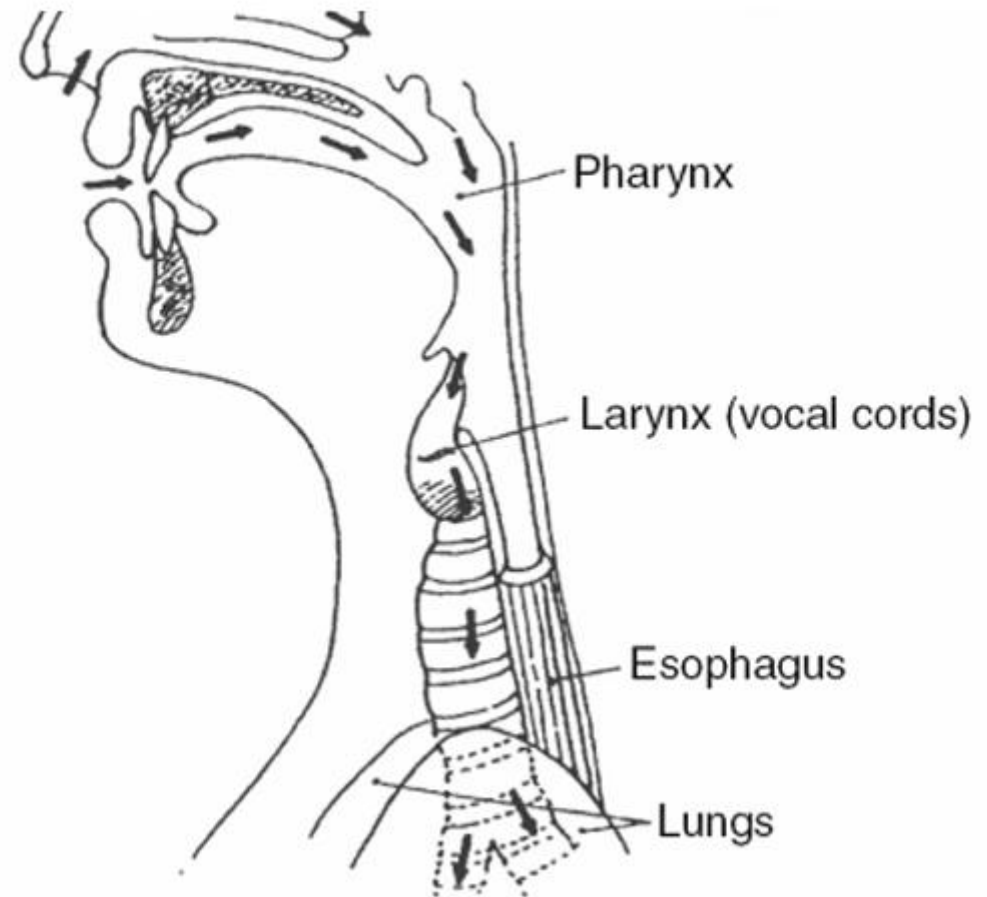
Table 1.14

The “x” Rule

In nouns ending with “x” preceded by a consonant, change the “x” into “g” when you derive an adjective from those nouns, or when a suffix is added to them.

Word	Adjective	Noun	Meaning
larynx	laryngeal	laryngectomy	excision of the larynx
pharynx	pharyngeal	pharyngotomy	incision of the pharynx
coccyx	coccygeal	coccyges (plural)	tailbone

Before laryngectomy



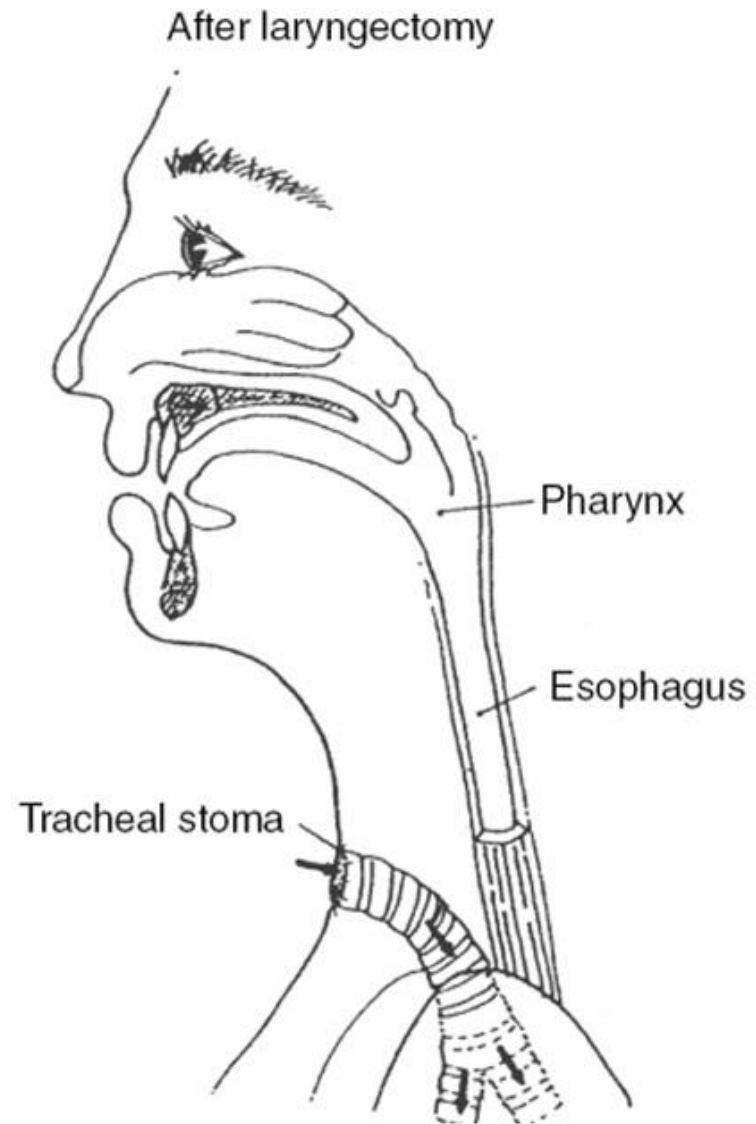


FIGURE 1.11 Laryngectomy: excision (removal) of the larynx.

When adjectives are derived from nouns ending with “x” that is preceded with a vowel, the “x” is changed into “c.”

Word	Adjective	Meaning
cervix	cervical	pertaining to the neck
thorax	thoracic	pertaining to the chest

Basic medical terms

- **Diagnosis**: The act or process of identifying or determining the nature and cause of a disease or injury through evaluation of patient history, examination, and review of laboratory data (state of complete knowledge).
- **Prognosis**: A prediction of the probable course and outcome of a disease (state of prior knowledge).
- **Sign**: Objective evidence of disease or the physical manifestation of injury, illness, or disease. Objective means that the sign can be evaluated or measured by the patient or others.

- **Symptoms**: Subjective evidence of disease or what the patient experiences about the injury; subjective means that it can be evaluated or measured only by the patient.
- **Syndrome**: A group of symptoms and signs that collectively indicate or characterize a disease, psychological disorder, or other abnormal condition.
- **Acronym**: A word formed by combining the initial letters of a multipart name or major parts of a compound term, such as GERD from Gastro Esophageal Reflux Disease.

- **Acute disease**: Rapid, severe, and of relatively short duration.
- **Chronic disease**: Lasting for a long period of time or marked by frequent recurrence, as certain diseases, may be controlled but almost never cured.
- **Sarcoma**: A cancerous tumor of fleshy tissue.
- **Carcinoma**: A cancerous tumor of epithelial tissue.
- **Malignant**: Tending to become progressively worse and to result in death; having the properties of anaplasia, invasiveness, and metastasis; said of tumors. You can also simply define it by a cancerous tumor that spreads like fire.

Commonly confused terms

- Many medical terms may look alike because they have similar pronunciation or they may be slightly different in spelling. Students are advised to spell these terms correctly and differentiate between their meanings in order to avoid undesirable consequences.

Examples

- **ilium**: one of the bones of each half of the pelvis
- **ileum**: third part of the small intestine
- **intervertebral**: pertaining to lying between two vertebrae (intervertebral disc)
- **intravertebral**: situated or occurring within a vertebra (intravertebral vacuum)

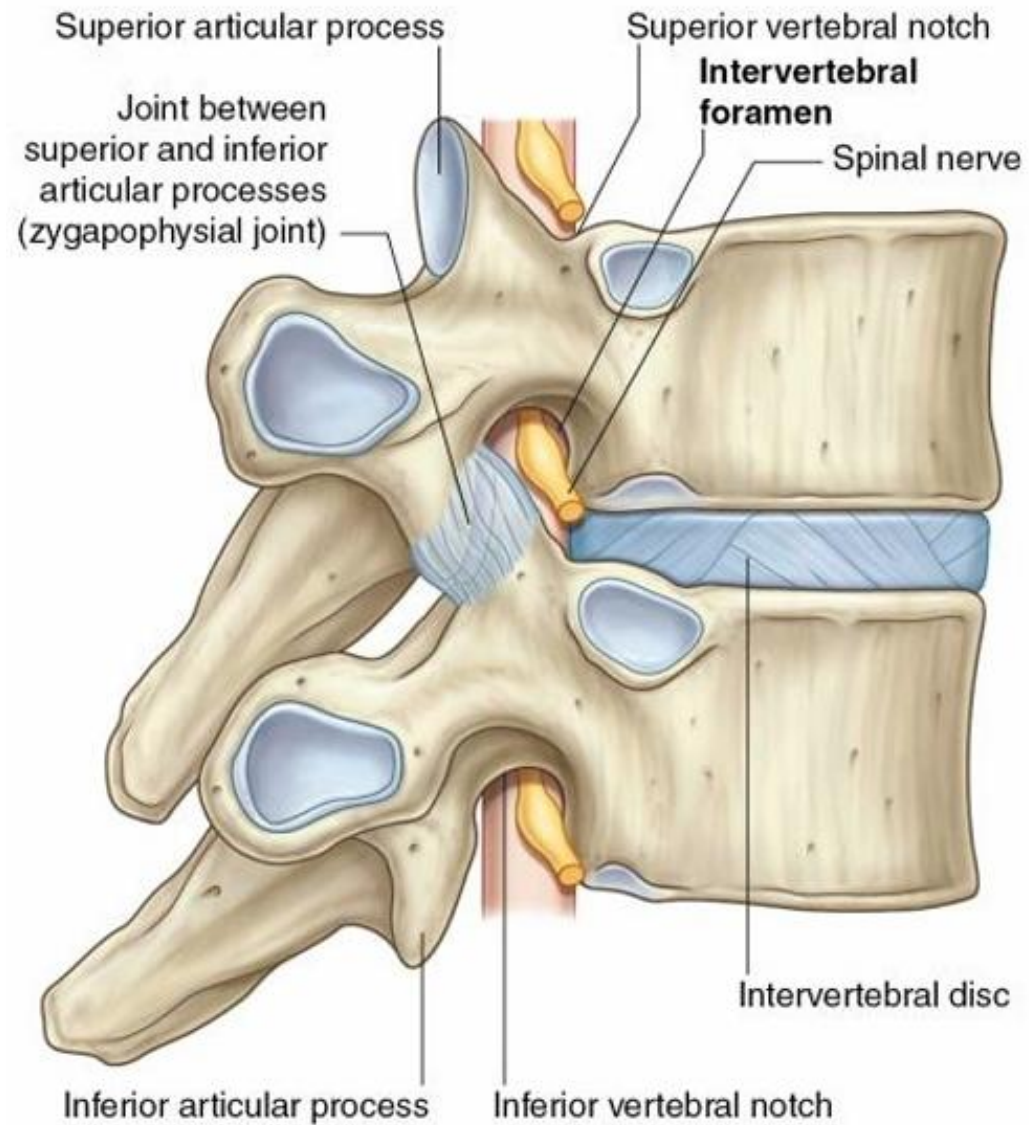


FIGURE 1.12 Intervertebral: situated between vertebrae.

- **peritoneum:** membrane that surrounds the abdomen and holds the abdominal organs in place
- **perineum:** the area between the anus and the scrotum (or vulva in females)
- **mucous:** (adjective) pertaining to membrane that secretes mucus
- **mucus:** (noun) secretion from mucous membrane
- **palpation:** process of touching and feeling
- **palpitation:** having the heart throb, a feeling that your heart is beating too hard or too fast

- **albumen:** the white of an egg
- **albumin:** protein molecule in the blood
- **humerus:** (noun) bone of upper arm
- **humorous:** (adjective) a general English word that means amusing or funny
- **humeral:** (adjective) pertaining to bone of upper arm
- **humoral:** pertaining to immunity to infection from antibodies in blood
- **contraction:** normal tensing and shortening of muscle from nerve impulse
- **contracture:** abnormal, fixed position of permanently flexed muscle

- **reflex**: involuntary, automatic response of muscular–nervous pathway
- **reflux**: backward flowing of fluid
- **ureter**: (noun) tube that connects kidney to bladder
- **ureteral**: (adjective) ureteral obstruction, ureteral stent, ureteral catheter
- **urethra**: tube that connects bladder to outside of body
- **urethral**: adjective of urethra

H.W \ Give me the Commonly confused terms with these terms.

- vesical , prostate , breath , arteri/o ,
fissure , inflammation , laceration ,
myel/o , pyel/o , supination , trauma ,
viral

* Some words are the same in spelling, but have more than one meaning according to the context in which they are used.

- **Examples :**

- **lithotomy:** incision to remove the stones from the kidney
- **lithotomy:** an examination position in which the patient is lying on back with the feet and legs raised and supported in stirrups
- **calculus:** kidney stone
- **calculus:** a name of heel bone
- **colic:** spasm of smooth muscle around ureters and bladder
- **colic:** spasm of smooth muscle around intestines

- **pelvis**: funnel-shaped area in kidney
- **pelvis**: hipbones with sacrum and coccyx
- **scler**: whitening of the eye
- **scler/o**: hardening
- **myel/o**: spinal cord
- **myel/o**: bone marrow
- **cyst/o**: urinary bladder
- **cyst**: filled sac or pouch



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PRONUNCIATION OF MEDICAL TERMS

إعداد:

م.م زهراء صبري جواد

Pronunciation of medical terms

- Pronouncing medical terms is rather difficult because many terms are multisyllabic and some of them have silent letters or have unusual pronunciation. Some differences between spelling and pronunciation are shown in Table 1.15.

Table 1.15

Irregular Spelling and Pronunciation

Spelling	Pronunciation	Example	Meaning
dys	dis	dyspnea	difficulty in breathing
ph	f	pharmacy	a place for dispensing medicine
x	z	xiphoid	cartilage attached to the sternum
ch	k	chronic	pertaining to time (a disease that remains for long period of time)

- The difficulty in pronouncing medical terms is aggravated by the fact that certain letters have more than one corresponding sound. For example, the letter “c” may be pronounced as “s” that is referred to as the soft “c,” or as “k” that is referred to as the hard “c” as can be noticed in Table 1.17.

Table 1.17

Soft and Hard “c”

Soft c (s)	Hard c (k)
cerebral	cardiology
hyperglycemia	arthroscope
encephalogram	cardiac
cytology	gastric
leukocyte	electrical
septicemia	endocrinology
amniocentesis	pericardium
cell	medical
incision	pharmacology

Rule: when the letter “c” is followed by “i, e, or y,” it is usually pronounced “s”; otherwise it is pronounced “k.”

- Similarly, the letter “g” also has two different pronunciations. The soft “g” is pronounced “j” as in large; whereas the hard “g” is pronounced “g” as in “good” as can be noticed in Table 1.18.

Table 1.18

Soft and Hard “g”

Soft “g” (large)	Hard “g” (egg)
hematology	hypoglycemia
enlargement	electrocardiogram
surgical	organ
salpingitis	malignant
pharyngitis	inguinal
arthralgia	mammography
angioplasty	ligament
meningitis	gallbladder
menorrhagia	gastric

Rule: when the letter “g” is followed by “i, e, or y,” it is soft “g” as in large; otherwise it is hard “g” as in egg.

Practice 1.4 Identify whether each of the following words has a soft or hard “c” or “g.”

Word	Soft c	Hard c	Soft g	Hard g
esophageal				
esophagus				
encephalo				
laryngoscopy				
gallbladder				
cerebral				
sarcoma				
leukocyte				
nephrology				
oncologist				

Singular and plural forms of medical terms

1. Words ending in “is”: change “is” to “es”

Singular	Plural	Meaning
diagnosis	diagnoses	determination of the cause of the disease (condition of complete knowledge)
analysis	analyses	separation of substances into their component parts
metastasis	metastases	spreading of the cancer
psychosis	psychoses	abnormal condition of the mind
prosthesis	prostheses	artificial part attached to the body

- **Exception:** Sometimes the plural of a word ending in “-is” is formed by dropping the “is” and adding “ides.”
- **Example:** “epididymis” becomes “epididymides”

2. Words ending in "us": change "us" to "i"

Singular	Plural	Meaning
calculus	calculi	stone
bronchus	bronchi	bronchial tubes
nucleus	nuclei	nucleus
bacillus	bacilli	rod-shaped bacteria
stimulus	stimuli	something that evokes a response or a reaction

Exceptions

Singular	Plural	Meaning
fetus	fetuses	baby (second month of gestation)
sinus	sinuses	hollow cavity
virus	viruses	an ultramicroscopic infectious agent
viscus	viscera	an internal body organ
corpus	corpora	a dead body

3. Words ending in "ix," "ex": change "ix" or "ex" to "ices"

Singular	Plural	Meaning
apex	apices	pointed ends of an organ
appendix	appendices	a supplementary part of an organ
cortex	cortices	outer part of an organ
varix	varices	swollen veins
matrix	matrices	background substance mold

4. Words ending in "um": change "um" to "a"

Singular	Plural	Meaning
bacterium	bacteria	bacteria
omentum	omenta	abdominal membrane
ovum	ova	egg cells
serum	sera	liquid
ilium	ilia	hip bone

5. Words ending in "a": retain the "a" and add "e"

Singular	Plural	Meaning
vertebra	vertebrae	backbone
conjunctiva	conjunctivae	membrane over the front of the eye
bursa	bursae	sacs of fluid near a joint
patella	patellae	kneecap
pleura	pleurae	one of the two membranes around the lungs

6. Words ending in "oma": retain "oma" and add "ta"

Singular	Plural	Meaning
adenoma	adenomata	benign tumor of a gland
carcinoma	carcinomata	cancerous tumor of a gland
fibroma	fibromata	cancerous tumor of a fibrous tissue
sarcoma	sarcomata	cancerous tumor of a fleshy tissue
angioma	angiomata	a tumor composed chiefly of lymph and blood vessels

7. Words ending in “on”: change “on” to “a”

Singular	Plural	Meaning
spermatozoon	spermatozoa	sperm cells
ganglion	ganglia	group of nerve cells
protozoon	protozoa	single-celled animals

8. Words ending in “nx”: change “nx” to “nges”

Singular	Plural	Meaning
pharynx	pharynges	throat
larynx	larynges	voice box
phalanx	phalanges	bone of fingers or toes

9. Words ending in "ax": retain the "a," drop the "x" and add "ces"

Singular	Plural	Meaning
thorax	thoraces	chest

10. Words ending in “en”: change the “en” to “ina”

Singular	Plural	Meaning
foramen	foramina	opening passageways
lumen	lumina	central opening

11. Words ending in "itis": change the "is" only to "ides"

Singular	Plural	Meaning
meningitis	meningitides	inflammation of the membranes surrounding the brain and spinal cord
arthritis	arthritides	inflammation of the joint

12. The following terms are general exceptions.

Singular	Plural	Meaning
pons	pontes	a band of nerve fibers in the brain
os (mouth)	ora (when referring to mouths)	mouth
os (bone)	ossa (when referring to bones)	a bone (used chiefly in Latin names of individual bones, e.g., <i>os trapezium</i>).
femur	femora	thigh bone
paries	parietes	hollow organ
cornu	cornua	• a horn-shaped projection of the thyroid cartilage or of certain bones (such as the hyoid and the coccyx) • either of the two lateral cavities of the uterus, into which the fallopian tubes pass
paries	parietes	a wall of a body part, organ, or cavity, as of the chest or abdomen



جامعة شط العرب
كلية العلوم
قسم علوم التحليلات المرضية



ADJECTIVES AND NOUNS

إعداد:

م.م زهراء صبري جواد

Table 1.19**Noun Forming Suffixes**

Suffix	Meaning	Example	Meaning
-ia	condition of	dementia	lack of intellectual development
-ism	state of/condition of	hyperthyroidism	condition of having excessive secretion of the thyroid hormone
-y	condition of	tetany	sustained muscle contraction
-osis	abnormal condition of	psychosis	abnormal condition of the mind
-iasis	abnormal condition of	psoriasis	skin disease
-esis	condition of	diuresis	increased urination
-asis	condition of	menostasis	stoppage of the menstrual flow

Table 1.20

Adjective Forming Suffixes

Suffix	Meaning	Example	Meaning
-ac	pertaining to or resembling	cardiac	pertaining to the heart
-ic		metric	pertaining to measurement
-ical		anatomical	pertaining to anatomy
-ar		vascular	pertaining to blood vessels
-ary		dietary	pertaining to the diet
-ory		respiratory	pertaining to the respiration system
-al		neural	pertaining to the nerve
-ile		febrile	pertaining to fever
-form		epileptiform	pertaining to epilepsy
-ous		cutaneous	pertaining to skin
-oid		lymphoid	pertaining to the lymph

Practice 1.13 Complete the table with the required form.

Noun	Adjective
psychosis	
	abdominal
epilepsy	
	anatomical
biology	
cancer	

Practice 1.14 Write the singular or the plural form as required.

Singular	Plural
bacterium	
	vertebrae
carcinoma	
	testes
ganglion	
	apices
bronchus	
	appendices
foramen	
	larynges

**H.W **

Write an article about a patient suffering from a specific medical condition who visited a doctor for diagnosis, or discuss a particular disease, its symptoms, diagnosis, and treatment. The article should not exceed ten lines.

Review exercises

A. Determine whether the following statements are true (T) or false (F).

1. A medical term never has more than one root.	_____
2. Some medical terms may not have a combining vowel.	_____
3. Adding a vowel to the word may be necessary to make it easier to pronounce.	_____
4. A vowel must always be present in a combining form.	_____
5. Diagnosis is the complete knowledge of a patient's condition.	_____
6. Autopsy is the examination of a dead body to determine the cause of death.	_____
7. Laparotomy is the removal of the abdomen.	_____
8. Ophthalmoscope is the process of visually examining the eye.	_____

B. Identify the root in each of the following terms and define it.

Term	Root	Meaning of root
1. cardiology		
2. gynecologist		
3. dermatitis		
4. arthroscopy		

C. Spelling: Circle the correctly spelled term.

1.	a. abdomen	b. abdumin	c. abdomin	d. addumen
2.	a. cardiologist	b. cardelologist	c. cardiologist	d. cardeologist
3.	a. resspiratory	b. rispitory	c. risperatory	d. respiratory
4.	a. artheralgia	b. arthralgia	c. artralgia	d. artharalgia
5.	a. gastroenterology	b. gastricenterology	c. gastrioenterology	d. gastroilogy
6.	a. systoscopy	b. cystoscopy	c. sestoscopy	d. cyctoscopy
7.	a. cardeopathy	b. cardeeopathy	c. cardeopathie	d. cardiopathy
8.	a. diagnosys	b. diagnosis	c. daignosis	d. dyignosis
9.	a. biologest	b. biologist	c. biaologist	d. baiologist
10.	a. excission	b. excicision	c. excision	d. exssion

D. Match the roots in the first column with their meanings in the second one.

1. ren _____	a. to breathe
2. gynec _____	b. kidney
3. ot _____	c. ear
4. thorac _____	d. skull
5. arthr _____	e. hip bone
6. spir _____	f. chest
7. lapar _____	g. skin
8. pelv _____	h. joint
9. tox _____	i. female
10. crani _____	j. abdomen
11. dermat _____	k. brain
12. encephal _____	l. poison

E. Circle the best answer.

1. Joint pain is

a. neural

b. arthralgia

c. nueralgia

d. neuralgia

2. The suffix that means visual examination is

- a. -dys
- b. -dia
- c. -scopy
- d. -ia

3. A malignant tumor of epithelial tissue is

- a. sarcoma
- b. carcinoma
- c. anemia
- d. nephroma

4. The root that means kidney is

a. pharyngo

b. rhin

c. rino

d. nephr

5. A gastrectomy is a/an

a. gastric resection

b. incision of a gland

c. gastroscopy

d. examination of the stomach

6. A combining form meaning cells is

a. cyst/o

b. cyt/o

c. cis/o

d. cyts

7. The suffix meaning “to view” is

a. -osis

b. -scope

c. -opsy

d. -scopy

8. The suffix that means abnormal condition is

a. -asis

b. -esis

c. -ia

d. -osis

9. The prefix that means behind is

a. exo

b. dys

c. re

d. retro

10. The suffix that means record is

a. -graph

b. -ia

c. -scopy

d. -gram

11. Tumor of a liver

a. arthrosis

b. arthroscope

c. adenoma

d. hepatoma

12. Prediction about the outcome of treatment is

- a. prolapse
- b. prognosis
- c. diagnosis
- d. psychosis

13. Which term relates to the neck?

- a. thrombosis
- b. cervical
- c. cephalic
- d. cerebral

14. A white blood cell is a/an

a. leukocyte

b. resection

c. platelet

d. erythrocyte

15. Subhepatic means

a. over the liver

b. below the liver

c. beside the liver

d. in the liver

• 16. An instrument to visually examine the urinary bladder is called a/an

a. cystoscope

b. arthroscope

c. cholecystoscope

d. gastroscope

17. Low (less than normal) amount of sugar in the blood is called

a. hyperacidity

b. hyperthyroidism

c. hyperglycemia

d. hypoglycemia

18. Glands that secrete substances are

- a. exocrine
- b. endocrine
- c. adenomas
- d. enteral

19. Cancerous condition of white blood cells with high numbers of immature cells is

- a. osteoma
- b. adenosis
- c. leukemia
- d. anemia

20. Excision of the kidney is

a. nephrectomy

b. adenectomy

c. gastrectomy

d. mastectomy

G. Identify the suffix in each of the following medical terms and provide its meaning.

	Suffix	Meaning
1. thrombosis:		
2. gastrectomy:		
3. cerebral:		
4. osteitis:		
5. retrogastric:		
6. carcinoma:		