

University of Anbar
College of Dentistry



Year: First

Course: Medical Terminology

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Terminology

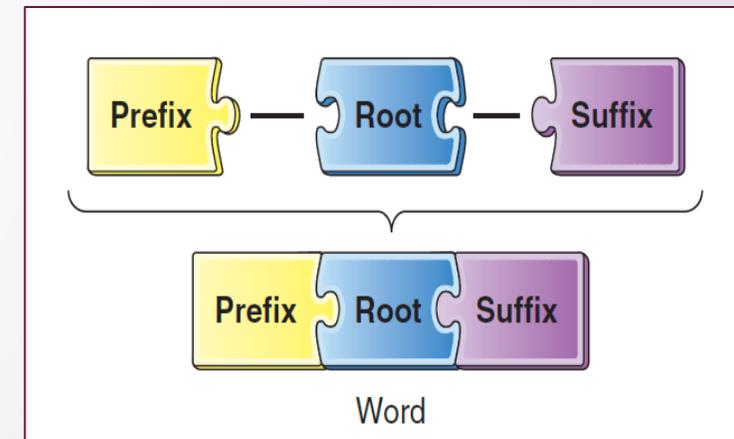
Terminology

- **Terminology** refers to **special words or expressions** used in relation to a **particular subject or activity**.
- **TERM**; A **word or phrase** used to describe a thing or to express a concept, especially in a particular kind of language or branch of study.
- **Medical terminology** is a special **vocabulary** used by health care professionals for effective and accurate communication.

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- ▶ Medical terminology is **consistent** and **uniform** throughout the world because it is based mainly on **Greek** and **Latin** words.
 - ▶ It is also **efficient**; although some of the terms are long, they often **reduce an entire phrase to a single word**. The one-word ***gastroduodenostomy***, for example, stands for “*a communication (stomy) between the stomach (gastr) and the first part of the small intestine, or duodenum (duoden).*”
 - ▶ The medical vocabulary is **vast**, and learning it may seem like learning the entire vocabulary of a foreign language.
 - ▶ It is always **expanding**.
 - ▶ Most medical terms can be divided into **component parts—roots, prefixes, and suffixes**—that maintain the **same meaning** whenever they appear. By learning these meanings, you can **analyze** and **remember** many words.

Word Parts

- ▶ Terms are usually formed by a combination of small words or syllables linked in a “building block” or word chain. Knowing the basic small divisions and the combining methods can assist in the understanding of word meanings.
- ▶ When broken into smaller parts, most longer terms reveal:
 - a **prefix** that *modifies* the term,
 - a **single-** or **double-root structure** that provides the *foundation* to the term, and
 - a **suffix** that *qualifies* the word meaning.
- ▶ **Example:**
write; writer; rewrite
write = root
write + -er (suffix) = writer (one who writes)
Re-(prefix) + write = rewrite (to write again)



1. The root

- ▶ The **root** is the *fundamental unit* of each medical word. This *establishes the basic meaning* of the word and is the part *to which modifying prefixes and suffixes are added*.
- ▶ **Root words** are frequently associated with a **body part**.
- ▶ A **word root** is always the **subject** or **main topic** of the **medical term**.
- ▶ Examples:
 - **Dent** is a word root that means tooth.
Dentistry: is the medical field that deals with the teeth and the oral cavity.
 - **Cardi/o** a word root that means heart.
Cardiology is the medical specialty concerned with the heart.
Cardiomegaly is the enlargement of the heart.
 - **Derm** means skin.
Dermatology is the medical specialty that is concerned with the skin.



➤ **Compound words** contain more than one root. The words *eyeball*, *bedpan*, *frostbite*, and *wheelchair* are examples. Some compound medical words are:

- ***cardiovascular*** (pertaining to the heart and blood vessels)
- ***urogenital*** (pertaining to the urinary and reproductive systems)
- ***lymphocyte*** (a white blood cell found in the lymphatic system)

2. Combining Forms

- ▶ When prefixes, suffixes or word roots are joined together, vowels can be added for pronunciation purposes.
- ▶ Roots shown with a combining vowel are called **combining forms**.
- ▶ **Combining Form Vowel Rules:**

1. Vowel is used when the suffix begins with a consonant:

When a suffix beginning with a consonant is added to a root, a vowel (usually an 'o') is inserted between the root and the suffix to aid in pronunciation.

Thus, when the suffix *-logy*, meaning “study of,” is added to the root *neur*, meaning “nerve or nervous system,” a combining vowel is added:

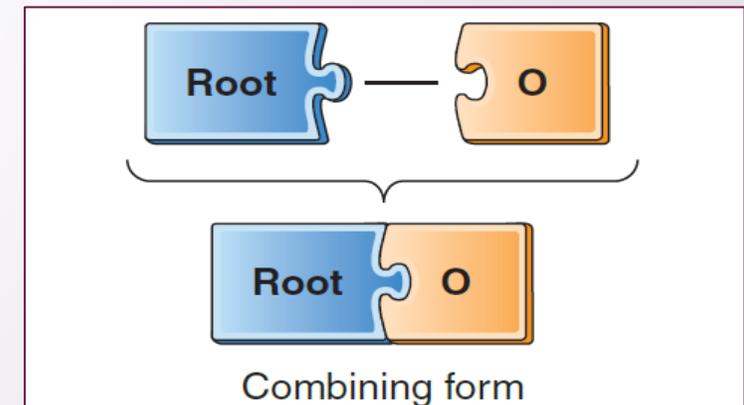
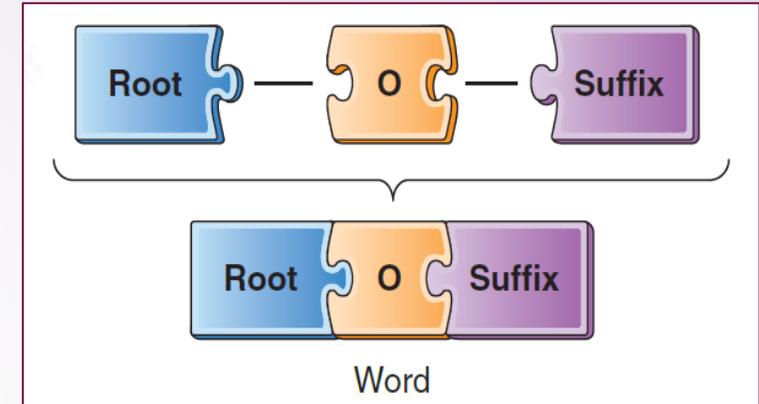
- $\text{neur} + \text{o} + \text{logy} = \text{neurology}$ (study of the nervous system)

- **Cardiology** = *cardi* + *o* + *-logy*

root suffix

heart study of

cardio = combining form = root + combining vowel



► Combining Form Vowel Rules:

2. Vowel is not used when the suffix begins with a vowel:

neur + *-itis* = **neuritis** (inflammation of a nerve)
root suffix

3. A combining vowel can also be used when two or more word roots are joined together:

Osteoarthritis (the inflammation of the joints and bones)

Oste + O + arthr + itis
root root suffix

bone + combining vowel + the joints+ inflammation

4. The use of the combining vowels, typically the vowel “O”, is primarily used for the sake of being able to pronounce the medical term, rather than for the sake of proper grammar.

5. The combining vowel neither adds nor subtracts from the term’s meaning.

► **Combining forms** which can be used at the beginning or in the middle of the word:

1. **cardio** = heart; *cardiogram*
2. **hepato** = liver; *hepatotoxin*
3. **gastro** = stomach; *gastrology*
4. **entero** = intestine; *enterology*
5. **ophthalmo** = eye; *ophthalmoscope*
6. **dermato** = skin; *dermatology*
7. **stomato** = mouth; *stomatology*
8. **neuro** = nervous system; *neurology*
9. **uro** = urinary system; *urogenital / urolith/ urology*
10. **gyneco** = woman; *gynecology*
11. **histo** = tissue; *histology*
12. **radio** = rays; *radiogram*
13. **onco** = tumor; *oncology*
14. **bio** = life; *biology / biogenesis*

3. Prefixes

A prefix is the first building block of a word division that begins a term. A prefix is placed **before a word root** to alter the word's meaning (makes a word more specific) by indicating **number, color, size, location, or condition.**

► Examples:

- **hyper-** = **excessive**; *hypertension* = high blood pressure
- **hypo-** = **less**; *hypoinsulinaemia* = low insulin in blood
- **pre-** = **before**; *premolar* = the tooth that is located before the molar
premature = before complete growth or development
- **post-** = **after**; *postnatal* = after birth
- **micro-** = **small**; *microscope* = a device used to see very small objects
- **macro-** = **big**; *macrocyte* = a big cell

4. Suffixes

- ▶ A suffix is an element added to the **end of a root word or combining form** to ***describe or qualify*** the word meaning. A suffix may indicate that the word is a noun or an adjective and often determines how the definition of the word will begin.
- ▶ A suffix **cannot stand alone** and is usually united with a root element by inserting a combining vowel (o) unless the suffix begins with a vowel.
- ▶ Suffixes usually, but not always, indicate a procedure, condition, disorder, or disease.
- ▶ Examples:
 - ectomy** = **surgical excision** (surgical removal of an organ); *gingivectomy* = gingiva + -ectomy = surgical removal of gum tissue
 - itis** = **inflammation**; *gastritis* = the inflammation of the stomach
 - megaly** = **enlargement**; *splenomegaly* = spleen + O + -megaly = enlargement of spleen



Note:

These elements are identified by specific characters:

Prefixes -

- Suffixes

Word roots /

► / is where the connecting vowel attaches to the root:

(gastr/o).

Pronunciation

► Silent Letters and Unusual Pronunciations

Letter(s)	Pronunciation	Example	Definition of example
ch	k	chemical KEM-i-kl	pertaining to chemistry
dys	dis	dystrophy DIS-trō-fē	poor nourishment of tissue
eu	u	euphoria ū-FOR-ē-a	exaggerated feeling of well-being
gn	n	gnathic NATH-ik	pertaining to the jaw
ph	f	pharmacy FAR-ma-se	a drug dispensary
pn	n	pneumonia nū-MŌ-nē-a	inflammation of the lungs
ps	s	pseudo- SŪ-dō	false
pt	t	ptosis TŌ-sis	drooping
rh	r	rheumatic rū-MAT-ik	pertaining to rheumatism, a disorder of muscles and joints
x	z	xiphoid ZIF-oyd	pertaining to cartilage attached to the sternum

Pronunciation

- ▶ The combinations (**pn ; pt; gn**) may be pronounced differently when they appear within a word, as in:
 - *apnea* (AP-nē-a) = cessation of breathing
 - nephro**pt**osis (nef-rop-TŌ-sis) = dropping of the kidney
 - prog**gn**osis (prog-NŌ-sis) = prediction of the outcome of disease

- ▶ **Words ending in x**

When a word ending in **x** has a suffix added, the **x** is changed to a **g** or a **c**. For example,

- **pharynx** (throat) becomes *pharyngeal* (fa-RIN-jē-al), to mean “pertaining to the throat”;
- **coccyx** (terminal portion of the vertebral column) becomes *coccygeal* (kok-SIJ-ē-al), to mean “pertaining to the coccyx”;
- **thorax** (chest) becomes *thoracotomy* (thor-a-KOT-ō-mē) to mean “an incision into the chest.”

Pronunciation

► Soft and Hard c and g

- C (before a,o,u)= K cavity, colon, cure
- C (before e,i) = S cephalic, cirrhosis
- G (before a,o,u)= G gallbladder, gallstone
- G (before e,i) = J generic, giant

► Suffixes beginning with rh

When a suffix beginning with **rh** is added to a root, the **r** is doubled:

- **hem/o** (blood) + **-rhage** (bursting forth) = **hemorrhage** (a bursting forth of blood)
- **men/o** (menses) + **-rhea** (flow, discharge) = **menorrhea** (menstrual flow)

Homonyms

Some words are very similar in sound and spelling, but have different meanings. These **homonyms** (**HAHM**-oh-nims) may cause confusion and alter the meaning of what is written so care must be taken to check the meaning and the spelling of a word when using these terms. Some common homonyms used in dentistry are:

- **die:** tooth or bridge pattern used in prosthodontic dentistry
dye: coloring material; may be used to indicate plaque
- **auxiliary:** helping subsidiary, such as a dental assistant
axillary: underarm site; may be used to obtain body temperature
- **esthetics:** pertaining to beauty
aesthesia: loss of pain sensation
- **facial:** (a) pertaining to the face; (b) front surface of incisor tooth
fascial: pertaining to the fibrous membrane on muscles
- **palpation:** use of hand or finger pressure to locate/examine
palpitation: condition of racing or increased heartbeat
- **suture:** area or line where two bones unite, such as coronal suture
suture: stitch or staple repairing or closing wound

Abbreviations – Acronyms

Acronyms (ACK-roh-nims) are abbreviations formed from the first letter of each word in a phrase. They represent a combination of word pieces, or initials that can indicate an occupation, specialty, procedure, condition, or chemical. Below are some examples of abbreviations or acronyms:

- **AIDS:** acquired immune deficiency syndrome
- **ALARA:** as low as reasonably achievable
- **ANUG:** acute necrotic ulcerative gingivitis
- **CDA:** Certified Dental Assistant
- **CCD:** charge coupled device
- **CAT:** computer assisted tomography
- **CEREC:** ceramic reconstruction
- **DDS/DMD:** Doctor of Dental Surgery or
Doctor of Dental Medicine
- **FFD:** film focus distance or focal film distance

- **HIPAA:** Health Insurance Portability and Accountability Act
- **HIV:** human immunodeficiency virus
- **HVE:** high volume evacuation
- **MPD:** maximum permissible dose
- **MRSA:** methicillin-resistant *Staphylococcus aureus*
- **MSDS:** Material Safety Data Sheet
- **PID:** Position Indicating Device
- **PDR:** *Physician's Desk Reference*
- **PPE:** personal protection equipment
- **RDH:** Registered Dental Hygienist
- **ZOE:** zinc-oxide eugenol



References

Cohen, B. J. (2021). *Medical terminology: an illustrated guide* (9th ed.). Jones & Bartlett Learning.

Dofka, C. M. (2013). *Dental terminology* (3rd ed.) Delmar, Cengage Learning.