Medical Terminology

Section I – Introduction to Terminology

Learning medical terminology will help the student to understand and translate documentation found in a patient's chart, information in journal, research articles and other written materials. Medical word origins are usually from the Greek and Latin languages. It is not necessary to study these languages. One can determine the literal meaning of an unfamiliar term by knowing the meaning of the word parts. As the student studies the different elements of medical words, it will be evident that after a few word parts are learned, these parts will be useful in understanding other medical words. This system is called word building. Since it is not practical to walk around with a medical dictionary, this system will help the student to learn words that are related to diagnosis and conditions, procedures and tests.

To analyze medical words, we need to understand 4 elements that are used to form the words. These elements are:
- Word root
- Combining form
- Suffix
- Prefix

To better understand the formation of the words, identifying marks will be used to separate the different elements.
- Slash (/) – to separate work elements; gastr/o
- Hyphen (-) – in front of a suffix; -al
- Hyphen (-) – after a prefix; pre-

Remember that correct spelling is a must. If a word is misspelled, the meaning may change. Ileum and ilium are pronounced the same, but have different meanings:
- Ileum – distal portion of the small intestines
- Ilium – the lateral, flaring part of the hip bone

Word Root
The word root is the main part or foundation of a word. All words have word roots.
- employer, employee – employ
- dresser – dress

In medical terminology, the root may indicate a body part or body system or colors.
- cardial – heart
- pancreatitis – pancreas
- cyanosis – blue

A medical word may be simply be a root or it may be a combination of word elements.
- sclera – white of the eye
- electr/o/cardi/o/gram – 2 roots and a suffix

Combining Form

Many words would be difficult to pronounce if written without a vowel to join the word roots. When you take a word root and add a vowel it becomes a combining form. This vowel is usually an "o", and it is called a combining vowel.
-        cyst/o
-        therm/o

The combining vowel is used before suffixes that begin with a consonant and before another word root. Prefixes are not included in this rule.

Suffixes

A suffix is added to the end of a word root or combining form to modify the meaning. Suffixes are joined to combining forms to write nouns, adjectives, and verbs. The suffix may indicate a procedure, conditions, disorder, or a disease. The combining vowel may be used to link word roots to the suffix that begins with a consonant.
-        sclera/osis
-        arthr/oscopy

The combining vowel is not used t o link word roots with a suffix if it begins with a vowel.
-        arthr/it is
-        gastr/ectomy

Changing the suffix, changes the meaning of the word.
-        dent/al – "al" means pertaining to
-        dent/ist – "ist" means specialist

Common suffixes:
-        Meaning "pertaining to":
         -al   -ary
         -ar   -ial
         -ic   -ous
-        Meaning "abnormal condition":
         -ago   -ia
         -osis   -ism
-        Other common suffixes:
         -itis – inflammation
         -scope – instrument to view or examine
         -ectomy – excision, removal
         -pathy – disease
         -ist – specialist
         -ology – study of
         -plasty – surgical repair
         -ostomy – surgically creating an opening
         -otomy – incision into
         -phobia – irrational fear
         -paresis – weakness
         -plegia – paralysis
         -rrhea – discharge, flow
         -tome – instrument to cut

Prefixes

A prefix is a syllable that is placed at the beginning of a work or word root to change the meaning or create a new word. Prefixes may indicate time, position, negation or measurement and numbers.

- pre/nat/al
- para/plegia
- bi/lateral

Many prefixes in medical terms are the same used in ordinary English words.

- pre – before – pre/operative
- post – after – post/operative

Common prefixes:

- Negation
  - a-, an- - without, not
  - im-, in- - not
- Position
  - ante-, pre-, pro- - before
  - epi—above
  - hypo-, intra-, sub- - under, below
  - inter- - between
  - medi- - middle
  - post- - after, behind
  - retro- - behind, backward
- Measurement and numbers
  - micro- - small
  - macro- - large
  - hyper- - excessive
  - multi-, poly- - many
  - primi- - first
  - mon-, uni- - 1
  - bi-, di- - 2
  - tri- - 3
  - quadri- - 4
- Time
  - pre- - before
  - post- - after

Singular and Plural Endings

Many medical terms originated from the Greek and Latin languages causing some difficulties when changing from a singular word to a plural. There are several rules that will assist in this procedure:

Singular word ending with:	Becomes plural:	Example
a	add an "e"	vertebra = vertebrae
ex or ix	drop ex & ix add "ices"	appendix = appendices
nx	drop the x, add "ges"	phalanx = phalanges
on	drop on, add "a"	criterion = criteria

Singular word ending with:	Becomes plural:	Example
um	drop um, add "a"	ovum = ova
us	drop us, add "i"	alveolus = alveoli
ma	add "ta""	sarcoma = sarcomata
y	drop y, add "ies"	ovary = ovaries

Points to remember:
1. Learn to analyze words by breaking them down into the different word elements to determine their meaning. When breaking words down, define:
    a. The end of the word 1st (suffix)
    b. The beginning of the word 2nd (prefix or word root)
    c. The middle of the 3rd (word root or roots)
2. Use a medical dictionary to look words up to check the meanings if you are not completely sure.
3. Medical dictionaries will also help you learn how to pronounce a word.
4. Be careful of the word spellings to make sure you are using the right word when documenting.

Worksheet - Section I

1. Name the 4 word elements that form a medical word.

2. The combining vowel in a combining form is usually _____.

3. The word element that follows a word root and changes the meaning is a _____.

4. The word element that is located at the beginning or a word is a _____.

5. Change the following singular words into plural words.
   Bacterium
   Bronchus
   Deformity
   Apex
   Ganglion
   Carcinoma
   Pleura

6. Define the following suffixes:
   -al
   -ist
   -osis
   -ectomy
   -itis
   -cele
   -esthesia
   -gram
   -pepsia
   -plasty

7. Define the following prefixes:
   a-
   ab-
   ante-
   brady-
   tachy-
   cyan-
   bi-
   tri-
   cryo-
   dys-

8.   Define the following medical vocabulary.
      Anoxia –

      Apnea

      Bradycardia

      Diaphoresis

      Dyspnea

      Hypertension

      Hypotension

      Korotkoff's sounds

      Orthopnea

      Pulse

      Tachycardia

      Vital signs