

How to Understand Medical Language

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Anyone who is confronted with medical terminology for the first time, be it as a student or in some other context, is likely to perceive great difficulties with it. This, however, does not need to be so. In my experience as a teacher of specialized English for Nursing Students I have noticed that they usually try to understand the meaning of a medical term in its entirety, because they are unaware that these words can be divided into several parts, and that the learning of these parts as separate entities is much easier.

However, students often create difficulties for themselves with this method because they feel a sense of panic when they are faced with grammatical terms like suffixes, prefixes and roots. But, if they really wish to understand this aspect of medical studies they have to overcome this “challenge”.

The principal aim of this paper is to demonstrate that the difficulties students find aren't so grave as they think. The first thing that it is necessary to do is to explain how to recognize roots, prefixes and suffixes, and then show how they are combined to form medical terms. Examples will be presented both in Spanish and English for a complete understanding.

1. Introduction

The majority of medical terms in current use come from several sources, the main ones being Latin and Greek words. They are also often derived from *eponyms*, that is to say, the names of physicians and surgeons who developed or discovered procedures, operations, and diseases. Occasionally, the names of mythological figures are also used. These sources are used as suffixes, prefixes and word roots.

2. Suffixes, prefixes and roots

Of course, before doing anything else, it is vital to explain what exactly suffixes, prefixes and roots are. The most important part of a word is its *root*, which contains the fundamental meaning of the word. A common word in Spanish is *anormal*, whose word root is *normal*. In the same way, *player* is derived from *play* in English.

A *prefix* is the part of a word which comes at the beginning and modifies its meaning. Therefore, in *anormal*, *a-* is the prefix, and means “por encima de”, and *anormal* means “por encima de lo normal”. In the word *replay*, *re-* is the prefix and means “repeat”, and *replay* means “play again”.

The word part we can find at the end of a word, which also modifies its meaning, is a *suffix*. So, *normalidad* has the suffix *-idad* which means “condición o calidad”, and *normalidad* means “calidad o condición de normal”. In English, *player* comes from *play* and *-er* which is a suffix meaning “occupation”.

So, *player* means “someone who plays”.

3. Latin and Greek medical terminology

Now, that we know what roots, suffixes and prefixes are, in their common usage, all we have to do is to apply this knowledge to medical terminology. The word *hypertension*, for example, can be divided into two word parts: the word root (wr) *tension*, and the prefix (p), *hyper-*. So, the term is:

(p) (wr)
hyper- / tension

Another example is *gastritis*, where *gastr-* is the word root (wr) and *-itis* is the suffix (s). Therefore, the word is formed like this:

(wr) (s)
gastr- / -itis

There are also other medical terms which have more than one word root, suffix, or prefix. For example: *otorhynolaryngology*

wr cv s cv wr cv s
ot-/o /rhyn-/o / laryng- / -o /-logy

As we can see in this word we have three word roots (wr), three combining vowels (cv) and a suffix (s). A combining vowel, usually an “o”, is used to ease pronunciation. It is used between two word roots, or between a word root and a suffix when the suffix begins with a consonant.

However, it is not only necessary to know how to divide medical terms into word parts in order to understand them, but also important to know the separate meaning of these parts. Therefore, *hypertension* is formed from the prefix (p) *hyper-*, which means “over” or “excessive”, and the word root (wr) *tension* which means “blood pressure”. Thus, the entire meaning of *hypertension* is “elevated (excessive) blood pressure”.

In the same way, the other previous examples are as follows:

	<i>gastr-</i>	“stomach”	inflammation
<i>gastritis</i>			of the
	<i>-itis</i>	“inflammation”	stomach
	<i>ot/o</i>	“ear”	The study
	<i>rhy/n/o</i>	“nose”	of the
<i>otorhinolaryngology</i>	<i>laryng/o</i>	“larynx”	ears, nose
	<i>logy</i>	“study”	and larynx

To make the understanding of the meaning of these word more simple we must be aware of their origin, because sometimes we may encounter roots, suffixes or prefixes, which occur both in Greek and Latin. For example those which pertain to the same part of the body.

PART OF THE BODY	GREEK ROOT	LATIN ROOT
HEAD	cephal-	capit-
BRAIN	encephal-	cerebr-
EAR	ot-	aur-
EYE	ophthalm-	ocul-
NOSE	rhin-	nas-
NECK	trachel-	cervic-
BREAST	mast-	mamm-
RIB	pleur-	cost-
ABDOMEN	abdomin-	lapar-
KIDNEY	nephr-	ren-
ANUS	proct-	ano-
BONE	ost(e)-	os-
VAGINA	colp-	vagin-
BLADDER	cyst-	vesic-

It is also possible to find prepositions, which appear in both languages, that is to say, in Greek and Latin.

PREPOSITION	GREEK ORIGIN	LATIN ORIGIN
IN	en-	in-
BELOW	hypo-	sub-
AROUND	peri-	circum-
DOWN	cata-	de-
BACKWARDS	opistho-	retr-
AGAINST	anti-	contra-
AWAY FROM	apo-	ab-

Many adjectives which come from Greek and Latin have the same meaning too.

ADJECTIVE	GREEK ORIGEN	LATIN ORIGEN
TWO	di-	bi-
FOUR	tetr-	quadr-
SIX	hex-	sex-
LARGE	mega	macro-
DIFFERENT	all-	hetero-
RED	erythr-	rub(r)-
HARD	scler-	dur-

Now that we have this information, we cannot only understand any medical term by using the afore-mentioned procedure, but also construct them. This is done by using definitions and word parts. We can use the following table.

WORD ROOT	DEFINITION	PREFIX	DEFINITION
cephal/o	head	intra-	within
cost/o	rib	sub-	under
dermat/o	skin		
encephal/o	brain	SUFFIX	DEFINITION
gastr/o	stomach	-itis	inflammation
hepat/o	liver	-ic	pertaining to
oste/o	bone	-odynia	pain
ot/o	ear	-ology	study of
proct/o	anus	-oma	tumor
psych/o	mind	-ous	pertaining to
rhin/o	nose		
stomat/o	mouth		
ven/o	vein		

For example, if we want to construct the word which means “inflammation of the liver” by using this table, we have to find the word part meaning “liver” and the suffix or prefix meaning “inflammation”, and if necessary, a combining vowel. Therefore the word would be: *hepat- / - itis*, from *hepat-* meaning “liver” and the suffix *-itis* meaning “inflammation”.

Another example is “pertaining to within the vein”, which, we can see, is *intravenous*:

p wr s
intra / ven / ous

4. Eponyms

The majority of eponyms come from the surnames of medical practitioners who have discovered or developed something in the field of medicine. Sometimes their Christian names are also used, and occasionally the name of the patient first described with a disorder.

However, we must be careful because it is possible that eponyms may vary from country to country, or even from region to region. Another problem is that eponyms are increasing in quantity everyday, and it is very difficult to be aware of these changes.

Some of the best known examples of eponyms are as follows:

DISCOVERER NAME	EPONYM	MEANING
A. Alzheim (German psychiatrist and neurologist)	Alzheimer Disease	The commonest cause of presenile dementia
D.H. Andersen (American paediatrician and pathologist)	Andersen Syndrome	Cystic fibrosis of the pancreas
F. Brenner (German physician)	Brenner Tumour	Tumour of ovary, usually benign
J.M.R. Carvallo (Mexican physician)	Carvallo Sign	Murmur of tricuspid incompetence is increasing in respiration
S. Christmas (Patient who was recognised to be different from a classical haemophilia)	Christmas Factor	Factor IX coagulation factor
G.L.C. Cuvier (French scientist) cardinal veins J.L.H. Langdon-Down (English physician)	Cuvier Ducts Down Syndrome	The two Mongolism

5. Mythology

A further source of medically related terms is mythology. Here we find various figures, the majority of which are gods, whose names have been used as a base for medical terminology.

Some of these examples are as follows:

FIGURE	ORIGEN	DESCRIPTION	MEDICAL TERM
Hypnos	Greek	God of sleep	hypnosis
Morpheus	Greek	God of dreams	morphine
Somnus	Latin	God of sleep	somnolence
Venus	Latin	Goddess of love	venereal
Aphrodite	Greek	Goddess of love	aphrodisiac
Hygeia	Greek	Goddess of health	hygiene
Hymen	Greek	God of the wedding feast	hymen
Psyche	Greek	the immortal wife of Eros (soul)	psychiatric
Phobos	Greek	attendant of Ares God of war (fear)	phobia,

6. Just for fun

The last section is only to find out whether the method that has been shown works. First, answer the questions and then check them with the key at the end.

Test

1. Match the words on the left with the descriptions on the right.

a) root

1) the part of a word which comes at the beginning.

- | | |
|-----------|--|
| b) prefix | 2) it modifies the meaning of a word. |
| c) suffix | 3) the part of a word which comes at the end. |
| | 4) it contains the fundamental meaning of the word |

2. What are the meanings of the following?

- | | | | |
|------|-------|-------|------|
| a) S | b) WR | c) CV | d) P |
|------|-------|-------|------|

3. Match the word roots on the left with the common english words on the right

- | | |
|-------------|-----------------|
| a) rhin/o | 1) mouth |
| b) dermat/o | 2) head |
| c) ot/o | 3) skin |
| d) stomat/o | 4) nose |
| e) cephal/o | 5) anus, rectum |
| f) cost/o | 6) ear |
| g) proct/o | 7) rib |

4. Divide the following medical terms into word parts. Use the following abbreviations: wr, s, p, cv

- a) costochondritis
- b) tracheostomy
- c) pseudohypoparathyroidism

5. Identify the following terms with their meaning.

- | | |
|----------------|---------------------------------------|
| a) encephaloma | 1) the study of the mind or behaviour |
| b) stomatitis | 2) pain in the stomach |

- c) psychology 3) tumor of brain
d) gastrodynia 4) inflammation of the mouth

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Keys

1. a - 4 b - 1, 2 c - 2, 3
2. a - suffix b - word root
 c - combining vowel c - prefix
3. a - 4 b - 3 c - 6 d - 1
 e - 2 f - 7 g - 5
4. a - wr cv wr s
 cost/o/chondr/itis
- b - wr cv s
 trache / o / stomy
- c - wr cv wr cv p wr s
 pseud / o / hyp / o / para /thyroid /ism
5. a - 3 b - 4 c - 1 d - 2

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