# 医学英语词状语物词

MEDICAL TERMINOLOGY FOR BEGINNERS

四川科学技术出版社

# 序言

改革开放以来,与国外医学界交流的机会日益增多,所以我们必须掌握目前交流的工具——英语,才能推广自己的研究成果,学习他人的经验。

医学英语是专业英语之一。它与公共英语的区别,主要是有大量的医学术语。因此,医务工作者除了学习公共英语,还必须掌握大量的医学术语,才能方便地阅读英语 医学文献,或与外国同行进行学术交流。

医学英语术语大多来源于拉丁或希腊语的词根、前辍及后辍。在学习医学英语术语时,如果能熟悉术语的来龙去脉,即组成该术语的各部分,则可以举一反三,迅速地增加词汇量,可惜目前我们尚缺乏学习医学词汇的教材。

刘道践和范华泉两位同志均为西安医科大学外语医学英语专业毕业的硕士研究生,具有较扎实的语言基本功,同时从事专业英语教学和学报的英文编辑工作多年,积累了一定的工作经验。他们主编的《医学英语术语构词》一书,内容丰富,填补了这一空白。该书不但可以作为医学生的教材,亦可作为年轻的医务工作者的自学参考书。

吴献猷 19996年10月9日 随着社会的进步,先进的科技成果很快为人类所共享已成为必然趋势。英语——作为科技成果及文化传播的主要媒介,则起着举足轻重的作用。然而,英语在不同的科技领域,有各自不同的表达方式,尤其在术语方面,而术语也是掌握医学英语的一大难点。为了帮助医学生及医务工作者攻克这一难关,打好医学英语的基础,我们编写了这本《医学英语术语构词》教材。

全书分为 14 章,前 3 章介绍医学英语术语的基本结构,后 11 章按人体的系统进行编排。结合普通词汇学的内容,重点分析和讲解医学英语词汇的构成方法,即希腊词、拉丁词的词根和词辍及其搭配方法;同时配发多种形式的练习题。旨在使学习者通过实践、对比、归纳,系统地掌握医学英语词汇构词法,从而扩大词汇量,提高阅读英文医学文献的能力。

在本书的编排方面,我们考虑到我国医务工作者的实际情况,所有的构词形式和 例词都采用英汉对照,并按字母顺序排列。正文后设有构词形式的附录,使本书既便于 学习,又便于查阅。

本书作者参考了国内外大量的关于医学英语词汇的书籍和文献,特别是美国专家 Edith 教授在西安医科大学任教期间的部分讲义,力图从希腊词、拉丁词的词源、词根 及词辍等方面来分析医学词汇的构成方法,使学习者在短期的时间内学到最大数量的 医学英语词汇,以达到掌握构词法、不借助词典猜测词义的目的。应当说,这种编写形 式在国内的同类书籍中尚属首创。

本书适用于医学院校学生、英语教师及临床医务工作人员和医学科研人员。

在本书的编写过程中,得到了第三军医大学教务部和外语教研室的领导及其他同志的鼓励、支持与帮助。吴献猷教授审阅了全书,作了专业修正和文字润色,并为本书写了序言。学报编辑部的沈锡庚主任及其他部分同志为促使本书的出版做了大量工作,在此一并致谢。

由于时间仓促,经验不足,疏漏之处在所难免,恳请广大读者不吝赐教,以便修正。

编 者 1996年10月于重庆

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#### **UNIT ONE**

# Lexicology and Medical Terminology

#### I. LEXICOLOGY

Lexicology means "the science of words". It's one of the branches of linguistics and deals with the origin, development, history, structure, meaning and application of words of a given language. In short, it is the study of the signification and application of words.

#### 词汇学

词汇学即"词的科学"。它是语言学的一个分支,研究一种语言的词的来源、发展、历史、结构、意义和应用。简而言之,词汇学就是研究词的意义及应用的科学。

The term LEXICOLOGY comes from Greek:

lexi(c)- is a noun root meaning WORD or PHRASE

log- is a verb root meaning TO STUDY

Related words include:

lexicon- a dictionary

dyslexia- a medical condition in which the child has difficulty in learning to read.

#### II. MEDICAL TERMINOLOGY

Medical Terminology is the science to study the origin and development of medical vocabulary. It discusses the problems of word-structure and word-formation of medical terms. The aim of this course is to give a relatively systematic and complete description of the medical English words and to help the learners enlarge their vocabulary and improve their ability of analyzing and using them.

## 医学术语学

医学术语学是研究医学词汇的起源和发展的学科。它探讨医学术语的结构和构词 法。该课程的目的是对医学英语术语进行较为系统而全面的描述,以帮助学习者扩大 词汇量,提高他们分析和运用这些词汇的能力。

The English language of today has many sources and continues to develop. The language of the tribes living in the area of modern day Britain originated in northern and western Europe and Scandinavia. Colonization by the Romans brought many Latin words into the English language. Many Latin words were originated from Greek. The conquest by France added French words; many French words were strongly influenced by or originated in Latin. Words from Italian, Spanish, and the

languages of North and South America, Asia, and Oceania have entered the English language as British colonized or traded with countries all over the globe.

现代英语来源较多,目前仍然在不断地发展。今天生活在不列颠的英吉利民族的语言起源于北欧、西欧及斯堪的纳维亚半岛。罗马人对不列颠的征服使英语增加了很多拉丁词汇,而许多拉丁词汇则起源于希腊语。法国人的入侵又使很多深受拉丁语影响或源于拉丁语的法语词进入了英语。英国的殖民扩张及对外贸易又使一些意大利语、西班牙语、美洲语言、亚洲语言及大洋州语言的词汇进入了英语。

Because Latin and Greek have been used by scholars throughout Europe, regardless of their native language, many if not most medical and scientific terms have their origins in Latin and Greek. Some of these words were actually used by the Greeks and Romans (parts of the body for example). However, many technical terms which are coined today from Greek and Latin word roots were never used by the Greeks and Romans. A substantial number of medical, chemical, and astronomical terms (to say nothing of the system of counting) came to English and technical terminology from Arabic.

由于欧洲学者一直都用拉丁和希腊语进行交流,所以很多医学和其它科技词汇都源于希腊和拉丁语。有些词汇是希腊人和罗马人直接用的(如表示身体各部分的词),而许多由后人人为地根据希腊、拉丁词根创造的词汇,他们则从未使用过。因此,许多医学、化学和天文学术语进人了英语,而别的术语主要源于阿拉伯语。

#### WORD-FORMATION IN ENGLISH

Word-formation is an important means to enlarge one's vocabulary. The English language has increased its resources not only through the adoption of words from other languages, but also through the formation of new words with the material available. There are three main processes of word-formation in English: conversion, compounding and affixation.

# 英语的构词法

构词法是扩大词汇量的一种重要方法。英语这种语言不仅直接借用其它语言的词汇,而且利用现有的语言材料创造词汇。英语主要有三种构词方法:转换法、复合法和词缀法。

1. Conversion is a word-formation process by which a word is changed from one part of speech into another. For example, the verb SWIM is converted to the noun SWIM.

转换法就是转变词的词性。例如"SWIM"可作名词也可作动词。

In the English language, conversion is an unusually prominent process of wordformation which serves to extend the lexical resources of the English language. Here are some examples: 在英语中,转换法是一种特殊的构词方法,可增加英语的词汇量。下面有些例子: want -- v. to require, to be in need of

n. need

love -- v. to have strong affection or deep tender feeling for .

n. warm, kind feeling; fondness

hit -- v. to give a blow

n. 'blow

fall -- v. to come or go down freely

n. act of falling

- 2. Compounding is so complex a problem in English that there is no one formal criterion that can be used for a general definition of compounds.
  - 2. 复合法非常复杂,因此不好给它下一个确切的定义。

As pointed out by Randolph Quirk et al in their book "A Grammar of Contemporary English", compounds are " isolated multi-base units which function as single words and reflect certain grammatical processes. " A compound consists in joining two or more bases to form a new word.

兰道尔夫·夸克在其《当代英语语法》中指出:"复合词就是一些孤立的多词根单位,其功能相当于单一词汇并能反映出一定的语法作用。"一个复合词是由两个或更多词根结合而构成的新词。

For example:

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earthquake = earth+quake

heart-breaking = heart + breaking

rainfall = rain + fall

birth-control = birth+control

housekeep = house + keep

3. Affixation is the morphological process whereby grammatical or lexical information is added to the base. It has played an active part in the course of the development of the English language. There are two types of affixation, prefixation and suffixation.

词缀法是一种形态性方法,词根被赋予了语法或词汇性信息。在英语的发展过程中起了积极的作用。词缀法有两种:前缀法和后缀法。

The affixation to add a prefix to the base, with or without a change of word-class is called as prefixation whereas that to add a suffix to the base, with or without a change of word-class is known as suffixation. Therefore a prefix is an affix that is placed at the beginning of a word, as un- in "unfaithful". A suffix is an affix that is placed at the end of a word, as -ness in "happiness".

前缀法即给一个词根加上一个前级,改变或不改变其词性;同样,后缀法则是给一个词根加上一个后缀而改变或不改变其词性。因此,前缀就是放在词首的词缀,如"unfaithful"中的"un-",而后缀则是放在词尾的词缀,如"happiness"中的"-ness"。

As mentioned above, many medical and scientific terms have their origins in Latin and Greek. That is to say, many medical words are formed by combining Latin and Greek roots and affixes. Consequently our book mainly deals with the affixation of medical English words, which will be discussed in detail in the following units.

正如上面提到的那样,许多医学和技术词汇都源于拉丁和希腊语,也就是说,很多 医学词汇都是把拉丁和希腊词根、词缀相结合而构成的。因此这本书主要讨论医学英语词汇的词缀构词法,在以后的各单元中我们将作详细介绍。

#### **UNIT TWO**

#### MEDICAL WORD FORMATION

#### 2. 1 Introduction

Like other languages, English vocabulary grows and changes along with the development of society. In the course of time, people meet new objects and new experiences and develop new concepts, so they need new words. Therefore a great number of technical terms including medical words appeared constantly in the vocabulary. In medical English vocabulary, affixation is the most important process of word-formation. However, compared with the general English vocabulary, medical vocabulary is more typical and specialized. Since we have obtained some knowledge of word-formation in common English, it's easier to analyze the formation of medical words.

象其它语言一样,英语词汇也随社会的变化而变化。在社会实践中,人们遇到新事物、体验新经验并创造新的概念,因而也就需要新的词汇。因此,英语中不断出现新的术语(包括医学词汇)。在医学词汇中,词缀法是最重要的构词方法,但医学英语词汇与其它英语词汇相比更为典型和专业化。前面我们已经学过了普通英语构词法,现在分析医学词汇的构词就容易多了。

#### 2. 2 Basic Patterns of Medical Words Formation

Medical terminology is the study of the parts that make up medical terms and vocabulary for each of the body parts. Most of the medical words are made from a combination of the following elements: the part of the word that we shall call the ROOT because it contains the most fundamental meaning of that word, prefixes and suffixes, and vowels that join all these parts.

医学术语学研究构成医学术语的成分及用于表示人体各部分的词汇。大多数医学术语都是由以下要素构成的:1)词根——一个术语中表示其基本意义的部分;2)前缀;3)后缀;4)结合元音——结合上述三部分的元音字母。

Recognizing the elements of medical words and how these elements combine to form words will enable you to reduce a word correctly into its parts and also to form many new words. All medical terms begin with a root and were built from it. There are eight basic patterns of medical words formation. They are as follows:

认识医学词汇的这些构成要素和它们怎样结合而成医学词汇的对于把一个词分成若干部分及创造新词是很重要的。所有的医学词汇都是基于词根构成的。医学术语的构词有下述八种模式:

#### Pattern 1 Root

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caries — — decay 骨疡 menses — — menstrual cycle 月经

### Pattern 2 \* Root + Suffix

therm/o/meter — instrument to measure heat 温度计 hepat/itis—— inflammation of the liver 肝炎

#### Pattern 3 Root+Base

troph/o/blast — a group of undifferentiated cells that will channel nourishment to the fetus 滋养层

#### Pattern 4 Root + Root + Suffix

enter/aden/itis—— inflammation of intestinal glands 肠腺炎 labi/o/dent/al —— pertaining to the lips and teeth 唇牙的

#### Pattern 5 Prefix + Root + Suffix

dys/men/o/rhe/a—— painful menstruation 痛经
epi/gastr/ic—— pertaining to the region over the pit of
the stomach 上腹部的

#### Pattern 6 Prefix + Root + Root + Suffix

sub/micr/o/scop/ic-- pertaining to that which is too small to be seen under the microscope 亚显微镜的

#### Pattern 7 Prefix + Prefix + Root + Suffix

contra/in/dic/a/tion—— that which indicates the inappropriateness of some form of treatment 禁忌症 sub/peri/oste/al —— under the tissue that covers the bone 骨膜下的

#### Pattern 8 Prefix + Suffix

para/centesis — — surgical puncture of a cavity in order to drain it 穿刺;穿刺术

# 2. 3 The Combining Vowels

When two roots are combined or a suffix is added to a root, if no vowel occurs

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at the junction of the two forms, a vowel called the COMBINING VOWEL is added for the sake of pronunciation. For example, in the word THROMB/O/POIESIS, /O/ is the combining vowel. Usually the combining vowel is /O/. The combining vowel /O/ has been used so extensively that it has replaced other vowels(I,E,A) in many medical words. As a result, /O/ is the most commonly occurring combining vowel. /I/ is the second most common combining vowel. We call a root with a combining vowel a combining form. For example, HEMATO (HEMAT+ O) and GASTRO (GASTR+O) are combining forms.

当两个词根或词根与词缀相结合,而其间又无元音字母时,为了发音的需要,要加入结合元音。例如,在词汇 Thromb/o/poiesis 中,/O/即为结合元音,通常情况下结合元音都是/O/。该元音被广泛使用而取代了其它元音(I,E,A),其结果是,/O/是最为广泛使用的结合元音,/I/次之。我们称一个词根加上一个结合元音为结合形式,如Hemato-和 Gastro-就是结合形式。

Exercise 2-1: Analyze the following medical words and give the Chinese meaning to them. You may use a dictionary if you like.

1. cardiology	cardi-o-logy.	2. lobotomy	lob.o. tomy
3. optometrist _	ept.o.metrist	4. urology	w.o.(09y
	auri-scope	6. centigrade _	contigrade
7. cornification	corni fication	8. millimeter _	milli-meter
9. pelvimeter	pelvimeter	10. oviduct	ov i duct
		wer see P. 162)	· · · · · · · · · · · · · · · · · · ·

#### 2. 4 Pronunciation of Medical Terms

Though many medical words are formed with Latin and Greek roots and affixes, their pronunciation is consistent with English pronunciation. The main stress is usually on the second to last syllable, secondary stress may be placed on other syllables. In terms with more than one root, either root may have the main stress.

尽管许多医学英语词汇是由拉丁、希腊词的词根和词缀构成的,它们的发音方法和普通英语词汇却没有差别。其第一重音位于倒数第二个音节,次重音则位于其它音节。如有多个词根,则任一词根处都可能是重音。

C before a, o, u is pronounced as /k/ (key): cardic

C before e, i, y is pronounced as /s/ (see): cyst

CH at the beginning of words is pronounced as /k/: chromosome

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G before a, o, u is pronounced as /g/ (go); gonad

G before e. i. is pronounced as /j/ (gem): gene

X at the beginning of words is pronounced as /z/: xanthochrome, otherwise it is pronounced as /x/ (mix): axilla

CN is pronounced as /n/: cnemial

GN is pronounced as /n/: gnathalgia

MN is pronounced as /n/: mnemonic

PH is pronounced as /f/: electrocardiography

PN is pronounced as /n/: pneumonia

PS is pronounced as /s/: psche

PT is pronounced as /t/: pterygium

RH is pronounced as /r/: rhinitis

#### 2. 5 Spelling of the Medical Terms

Spelling changes over time and may differ according to local customs. Changes may occur to easy pronunciations, for example:

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"appendicectomy" has become "appendectomy"
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"conlapse" has become "collapse"

"inmiscible" has become "immiscible"

"synbiosis" has become "symbiosis"

"posyodontis" has become "polyodontia"

"antiacid" has become "antacid"

"urinanalysis" has become "urinalysis"

"thrombopoesis" has become "thrombosis"

Common usage has shortened many words but these should be regarded as informal words, sort of a medical slang.

"leukocytopenia" has become "leukopenia"

"poliomyelitis" has become "polio"

Formation of many plurals, even for words with their origin in Greek or Latin, is by adding -(e)s to the singular form. There are still many words, generally those taken directly from Latin, which take their original plural form. They are as follows:

许多医学名词的复数形式都是在其单数形式后面加上"-(e)s"构成的。但也有很多直接取自拉丁语的名词,它们的复数形式直接采用原有的方式。现列举如下:

ending		tern	n	
singular	plural	singular	plural	
-a	-ae	cornea	corneae	角膜
-ex/ax	-ices	thorax	thorices	胸
-is	-es	dermatosis	dermatoses	皮肤病
-is	-ides	arthritis	arthritides	关节炎
-ix	-ices	appendix	appendices	阑尾
-ma	-mata	carcinoma	carcinomata	癌
-on	- <b>a</b>	phenomenon	phenomena	现象
-um	-a	ilium	ilia	髂骨
-us	-i	coccus	cocci	球菌

Exercise 2-2: Give the Chinese meanings and plural forms to the following medical words after the model.

Model: mucosae 粘膜 mucosae		
1. cervix	2. diagnosis	
3. maxilla	4. cortex	
5. bacillus	6. bacterium	
7. bronchus	8. adenoma	
9. labium	10. adenitis	

(Suggested answer see P. 162)

#### UNIT THREE

#### BASIC WORDS PARTS

#### 3.1 ROOTS

A root is the base of a word that expresses its essential meaning, a meaning that never changes, ever though affixes may be added at the beginning or at the end of a word. To be more exact, the root is that part of the word left when all the affixes (prefixes and suffixes) are removed. In the word "unusefully", for example, removing "un-", "-ful" and "-ly" leave the root "use". Many languages use word roots and add prefixes before the root and suffixes after the root to modify the meaning of the word. For example:

词根是一个词的最基本部分,其意义不会因为词缀的改变而发生改变;更确切地 说,词根是当一个词的词缀都去掉后余下的部分。例如,在单词"unusefully"中,去掉词 级"un-"、"-ful"和"-ly"后,即留下词根"use"。在许多种语言中,人们都采用将词根加 上前后缀这种方法来构成不同意义的词汇。举例如下:

orb- is a Latin root meaning "sphere", it is used in the word "orbit" labeling the hollow space in the skull where the eye is located

retro-orbital: refers to the location behind the eye or orbit; it contains retro- a prefix meaning "behind" and -al a suffix meaning "pertaining to"

ROOTS (pa	rts of the body)	COMPOUN	D SUFFIXS
gastr-	stomach 胃	-log/y	study of
enter-	intestine 肠	-log/ist	specialist in study of
esophag-	esophagus,gullet 食道	-scop/y	examination of
col(on)-	colon 结肠	-gram	picture or tracing of
proct-	rectum, anus 直肠,肛门		
rect-	rectum 直肠		
hepa(t)-	liver 肝		
cardi-	heart 心		
derm(at)-	skin 皮肤		
arthr-	joint 关节		
oste- '	bone 骨		
chondr-	cartilage 软骨		

The study (and treatment of diseases) of the stomach and intestines is gastroenterology and the medical specialist of this discipline is a gastroenterologist. The study of the rectum and anus is proctology and the specialist is a proctologist.

$\mathbf{F}_{max}$	:	2	1
Exe	rcise		1

ren-

cyst-

nephr-

kidney

kidney

bladder

囊,膀胱

### A. Create words meaning:

	study of	specialist
the liver		
		answer see P. 162)
The examination	n of the internal aspec	t of a joint is arthroscopy.
B. Create word	s meaning: the examin	ation of
the stomach		
the rectum and	anus	
	(Suggested answe	r see P. 162)
ROOTS	MEANING	COMPOUND SUFFIXES
cephal-	head 头	-itis inflammation 炎症
crani-	skull 颅	-oma tumor 肿瘤
cerebr-	brain 脑	-megal/y enlargement 增大
aden-	gland 腺	-cele hernia 疝,突出
appendic-	appendix 阑尾	
bronch-	bronchus 支气管	
pneum(on)-	lung 肺	en-endo- inside 在内
neur-	nerve 神经	ec-ecto- outside 在外

around 周围的

peri-

Encephalitis is inflammation of the brain (literally: inside the head); cerebritis is inflammation of the cerebrum (a part of the brain).

#### Exercise 3-2

A. Create words with the meaning of "inflammation of" and give their corresponding Chinese terms.

a gland	
the appendix	
the lung	
the bladder	P. 100)
	(Suggested answer see P. 162)

#### 3. 2 PREFIXES

A prefix is an affix added before a root to form a new word. Prefixes usually create adverbs, especially indicating spatial relationships. They also create adjectives. It is helpful to study prefixes in the pairs of opposite relationships, for example:

ab- away from (especially from the median)
 ad- toward (especially toward the median)
 pre- before, in front of
 post- after, in back of

Prefix	Meaning	Example
ab-	away from	abductor 外展肌
ad-	toward	adductor 内收肌
af-	toward	afferent 传入的
ef-	out of, from	efferent 传出的
an(a)-	up, back	anabolism 合成代谢
cat(a)-	down	catabolism 分解代谢
de-	down from	deficiency 不足;缺乏
pro-	in front of	propel 推进

ante-	forward, before	antechamber 前堂;前厅
retro-	backward, behind	retrograde 退化变性
anter-	farther forward	anterior 前侧的
poster-	farther back	posterior 后侧的
ec(t)-	out of, from	ectasia 扩张
em- en-	in, on, within	embolism 栓塞
in-	in, on, against	inflate 使膨胀
ecto-	outside of, outer	ectoderm 外胚层
ex(o)-	out of, outside	exothermic 外热的
end(o)-	inside, inner	endothermic 内热的
extra-	outside of, beyond	extramedullary 髓外的
intra-	inside, within	intravenous 静脉内的
extro-	outside of, beyond	extrovert 外向的
intro-	inside, within	introvert 内向的
exter-	outer	external 外源性的
inter-	inner	internal 内源性的
extrem-	outermost	extremity 肢体
intim-	innermost	intima (血管的)内膜
epi-	on, over	epidermis 表皮
hypo-	beneath, under	hypodermis 皮下组织
sub-	under	subcutaneous 皮下的
infer-	lower	inferior 在下
super-	above, over, higher	superior 在上
infra-	below, lower	infracostal 肋骨下的
supra-	above, over	suprasternal 胸骨上的
pron(at)-	bend forward, lie on one's face	pronator 旋前肌
supin-	?lie on one's back	supinator 旋后肌
pro-	before, forward	prognosis 预后 ·
аро-	from, away from	apoenzyme 酶蛋白