Understanding the Language of Medicine

A Programmed Learning Text

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Preface

When one of us (P.B.) began teaching a medical terminology course in 1977, she was disturbed to find a lack of interesting and practical texts in the field. Realizing that clinical medicine can be fascinating to almost everyone who encounters it, we discussed the possibility of writing a book that would present terms in the context in which they are used.

The result is a text that teaches the language of medicine within the framework of medical specialties, diseases, and procedures. Terms are not presented as isolated learning units. They are part of a vibrant, exciting story, full of information about things that affect our everyday lives. The terms are the vital element of this book, but they are most interesting when treated as part of a living language.

We chose the format of a programmed learning text because educators have determined that this type of text is one of the easiest from which to learn. We think this is especially true when learning a large number of medical terms which often can be confusing to lay persons. Using word parts as learning units allows the transfer of knowledge as students learn to analyze complex terms and combine word parts to form new terms.

Although this book can be used easily outside a classroom, it will be more effective as part of a classroom experience. Familiarity with the terms and word parts can be increased by exposure to additional terms during class time. A strong effort has been made to exclude terms that are not used widely in medicine. Classroom use of less common terms however, can be a positive reinforcement of

learning gained by reading the text. The term lymphostasis is not encountered often in medical practice, for example, so it was not included in the book. But teaching that term in class can improve mastery of both word parts, "lymph" and "-stasis." A perusal through a medical dictionary for additional terms containing the word parts taught in each chapter can be an aid to effective teaching and learning. Likewise, while phonetic spellings are provided within the text, classroom practice of pronunciation can improve mastery of the terms. Reviews are provided at the end of each chapter or section to reinforce learning.

Students always seem most interested when clinical aspects of medicine are discussed in relation to the terms they are learning. For this reason, we have emphasized the practical usage of medical terms and have attempted to explain important medical diseases and procedures.

Throughout the book we have referred to unidentified individuals as "he" or "him." This usage is to conform with the yet unchanged grammatical custom of using the masculine gender to refer to individuals whose sex is unidentified, not to ignore the contributions or presence of women in the medical field.

Oklahoma City   P.J.B.
November, 1980   J.D.S.

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Introduction

1

This book is in the form of a programmed learning text, which provides an easy way to learn new material, especially medical terminology.

This book has an answer column on the left side of each page which you are to cover with a piece of paper. The text of the book appears on the right side of the page as numbered information sections called **frames.** The frames usually have a blank [_____] in one or more of the sentences. "Work" the frames by reading them and writing an answer in the blank that completes the sentence. Then check your answer by lowering the answer cover sheet to reveal the correct answer for that frame.

1

People in the health professions use special words to describe illnesses, chemical and laboratory procedures, body parts, and so on. These **medical terms** make up the medical vocabulary. This book is designed to teach you many of the

terms

medical _____ that are part of the medical vocabulary.

3

2

It is difficult to learn much of the medical vocabulary if you have to memorize each word's meaning. By learning the meanings of some basic word parts, however, you can figure out what many medical terms mean.

For example, the word part **arthr** means joint whenever it appears in a word, and **-itis** means inflammation. The word **arthritis** means _____ .

inflammation of
(a) joint(s)

3

Arthr is a **word root.** It can be used in several different words, such as arthritis, arthropathy, and arthric. In those three words, the common word root is _____ .

arthr

4

Almost every word, medical or otherwise, has at least one word root and may have several. The word roots are the foundation of a word, determining the basic meaning of that word. Word roots do not change form from word to word. The common word root in surgery, surgical, and surgeon is _____ .

surg

5

Laryngitis, laryngoscope, and laryngotomy all have the word root _____ .

laryng

6

Microscope, microscopic, and microscopy have more than one word root. The word roots in these terms are _____ and _____ .

micr; scop

7

Most medical terms used today are based on an-
cient Latin or Greek words. As early as the fifth
century B.C., Greek physicians were using words
like arthritis, nephritis, and pneumonia. Word
roots that originated in ancient Greek and Latin
are combined in a special way to form words.
The word root sometimes appears in a **combin-
ing form** (c.f.) by the addition of a **combining
letter,** usually the vowel "o." If the vowel "o" ap-
pears at the end of a word root, the word root

combining form   probably is in a _____ _____ .

8

Psych is the word root in psychology, psycho-
path, and psychosomatic. Because a combining
letter follows the word root in all these words, the

combining form   word root psych is in a _____ _____ .

9

The common word root in orthodontist, ortho-
orth;   pedics, and orthotherapy is _____ . The
orth/o   combining form for this word root is _____ .

10

In the words neurology, neurobiology, and neu-
neur;   rosurgeon, the common word root is _____ ,
combining form   and it is in a _____ _____ .

11

Word roots do not always appear as combining
forms in every medical word. Neur is not in com-
bining form in neural or neuritis, because there
combining letter   is no _____ _____ fol-
lowing the word root.

12

A simple rule governs whether a word root will appear in combining form in medical terms:

> The word root appears in a combining form (by the addition of a combining letter) if the next letter in the word is a consonant. If the next letter is a vowel (a, e, i, o, u, and sometimes y), no combining letter is used.

psychiatry

The word parts psych/o and -iatry are combined in the term _____ .

13

gastrologist;

is

Gastr/o + logist = _____ .
A combining letter ___(is/is not)___ used in this term.

14

hysterocystopexy

If several word roots are used in a medical term, the combining rule is applied to each individual word root. Hyster/o + cyst/o + -pexy = _____-_____ , which is an operation to surgically stitch the bladder to the uterus.

15

arteriosclerosis

Arteri/o + scler/o + -osis = _____-_____ , which is hardening of the arteries.

16

i

Some word roots may use a letter other than "o" as the combining letter. The combining letter in the term millimeter is _____ .

17

There are two other kinds of word parts in medical terms: prefixes, which appear at the beginning of words, and suffixes, which act as word endings. A glossary of these and other word parts is at the back of this book. Prefixes generally are short and rarely change form from word to word. They do not have a combining letter, regardless of whether the next letter in the word is a consonant or a vowel. The prefix in the words malnutrition, malpractice, and maladjustment is _____ .

mal-

18

Because prefixes have a meaning of their own, they add to the basic meaning of the word established by the word roots. Depress, oppress, impress, and compress all have different meanings because the various prefixes add additional meanings. In these words, the word root is

_____ .

press

19

The prefix in prenatal, preclinical, and predental is _____ .

pre-

20

Pre- adds the meaning "before" to the word roots in the above words, although the basic meaning of each is established by the _____

_____ .

word
roots

21

Suffixes, like prefixes, usually are short and do not change form from word to word. In the words improvement, movement, and measurement, the suffix is _____ .

-ment

word
ending

22
Not all word parts that are used as word endings are technically classified as suffixes (see Appendix B). Rather than determining if a word ending is actually a suffix, we will call all of them word endings. For instance, -iatry is not technically a suffix, but it is always used as a _____ _____ .

cystocele;
obstetrician

23
Because word endings are preceded by word roots, a combining letter may or may not be used in front of any given word ending, even though the word ending itself does not change. Cyst/o + -cele = _____ , but obstetr/o + -ician = _____ .

vowel

24
In the word cystocele, which means herniation of the bladder, the word ending -cele remains unchanged, while the word root cyst is put in combining form because -cele begins with a consonant. The word root obstetr was not put in combining form because -ician begins with a _____ .

noun

25
Word endings are classified as noun, adjective, verb, or adverb endings. The ending used in a word establishes what type of word it is. Because -ism is a noun ending, the word rheumatism is a _____ .

adjective

26
Adding the adjective word ending -oid to rheumat/o makes the word rheumatoid (as in rheumatoid arthritis) an _____ .

27

word roots;
prefixes;
word endings

word ending

The basic meanings of words are established by their _____ _____ , while the meaning is modified by _____ and _____ _____ . In addition, word type is determined by the type of _____ _____ used.

Are you ready to begin learning some medical terminology? Since heart diseases are such important health problems at present, a good place to start is cardiology.

Phonetic respelling of terms appears in the answer column immediately following each term's initial appearance there. Pronunciation of vowels is as follows: lab, lāy, far, ten, hē, her, tip, tīme, top, tōe, rōom, cūe, ə for "io" in inspection, for "u" in atrium.