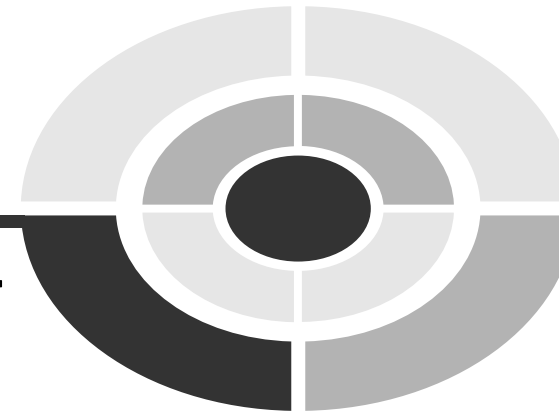
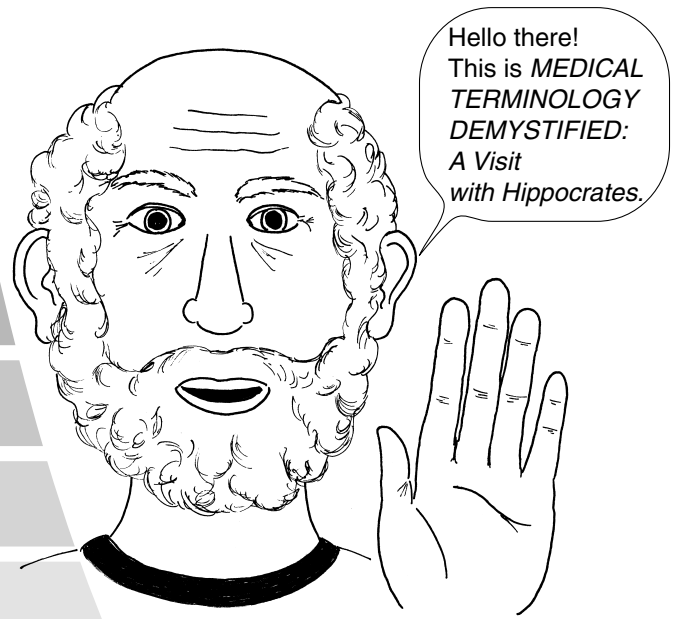


PART 1

The Foundations of Medical Terminology

CHAPTER 1

The Basic Ideas, or "Hey! It's Just *Greek* (or *Latin*) to Me!"



A greeting from Hippocrates, the father of Modern Medicine.

I am *Hippocrates* (pronounced as hih-**PAHK**-rah-**tees**), the Father of Modern Medicine. Welcome to my world—the world of Ancient Greece and Rome. It is here that we begin our introduction to medical terminology. Our approach is much different from that taken by a medical dictionary, where you merely look up a particular medical word, try to correctly pronounce and spell it, and then attempt to memorize its definition. How dry, dull, and *boring*!

You, my Lucky Friend, have finally found an orderly, logical system or method for better learning, understanding, and correctly using those strange medical words you may have encountered! In short, you have entered the vibrant pages of *MEDICAL TERMINOLOGY DEMYSTIFIED: A Visit with Hippocrates*.

Background and History

Another major weakness of medical dictionaries (and many books on medical terminology) is a lack of emphasis upon *medical background and history*. "How can you and I thoroughly understand and appreciate the medical terms we encounter if we don't know the background or history lying behind them?" the reasonable person could intelligently ask.

I, Hippocrates, will be standing and pointing to key facts about medical background and history within each chapter of this book. You will see me again and again as a small icon or picture-symbol in the page margins (see Figure 1.1). After the icon will be the letter *H*, for *HISTORY*. As each key historical fact is labeled with my picture-symbol, it will be numbered in sequence. My picture followed by *H1*, for example, will indicate that this is "key fact #1 of medical history" in a particular chapter.

Please notice also (Figure 1.1) that my picture is surrounded by an oval capsule—really a *pill capsule!* This means it is tagging a certain key fact in the book that serves as an important "Memory Pill" for medical history! This icon is a response to what you may have actually said to a relative or friend when they just couldn't *remember* something! Now, what did you say? Why, you told them, "Go take a *pill!*" And in this book, that's exactly what we're going to do! We're going to be taking Memory Pills for key text facts—lots and lots of them, to help us remember what we have read!

So, here we go! Now, primitive medicine is at least 10,000 years old. We know this is true, because paintings of people performing surgery and various other types of therapies have been found scrawled upon the walls of long-buried ancient cities.

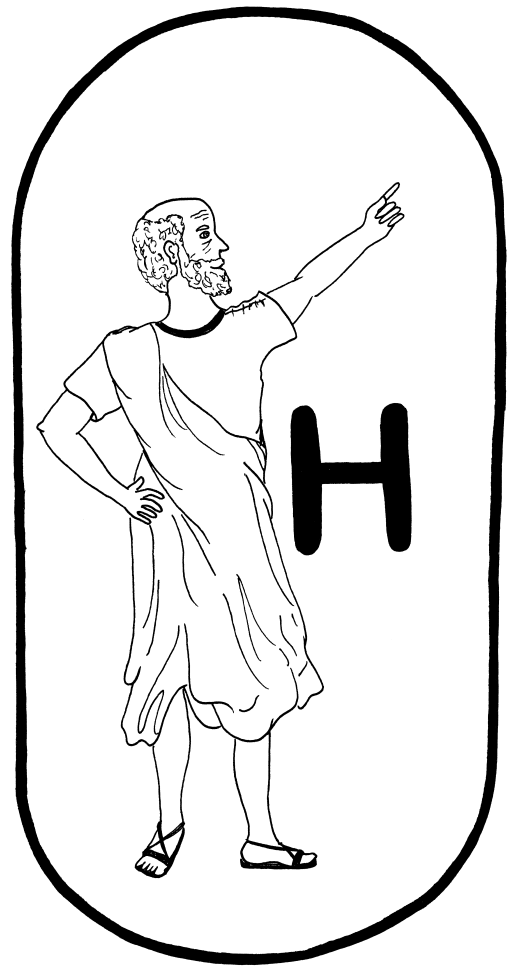


Fig. 1.1 The "memory pill" icon for key facts about medical history (*H*).

In early times, very few scientific facts were known, so death and disease were often regarded as supernatural, rather than natural, occurrences. So if you were sick, it was because you had offended the gods!

But even a very primitive form of medicine required a certain language. Terms for sicknesses and diseases had to be invented, and the tools and techniques used to treat these diseases had to be described. Thus, medical terminology was born with medicine itself, and is probably just as old.

As diseases were recognized, they had to be named and described in terms which were very different from ordinary daily language. When various treatments and therapies were developed, they had to be explained and communicated

to others across the gap of generations. Soon a massive, complex medical language evolved, and it was known and used mainly by people involved in the healing arts.

EARLY MEDICAL LAWS: THE CODE OF HAMMURABI

One of the first major bodies of medical rules and language occurred around 1780 BC in ancient *Mesopotamia* (**mes**-uh-puh-**TAY**-me-uh). In Greek, the word *Mesopotamia* actually means "between the rivers." Much of this region

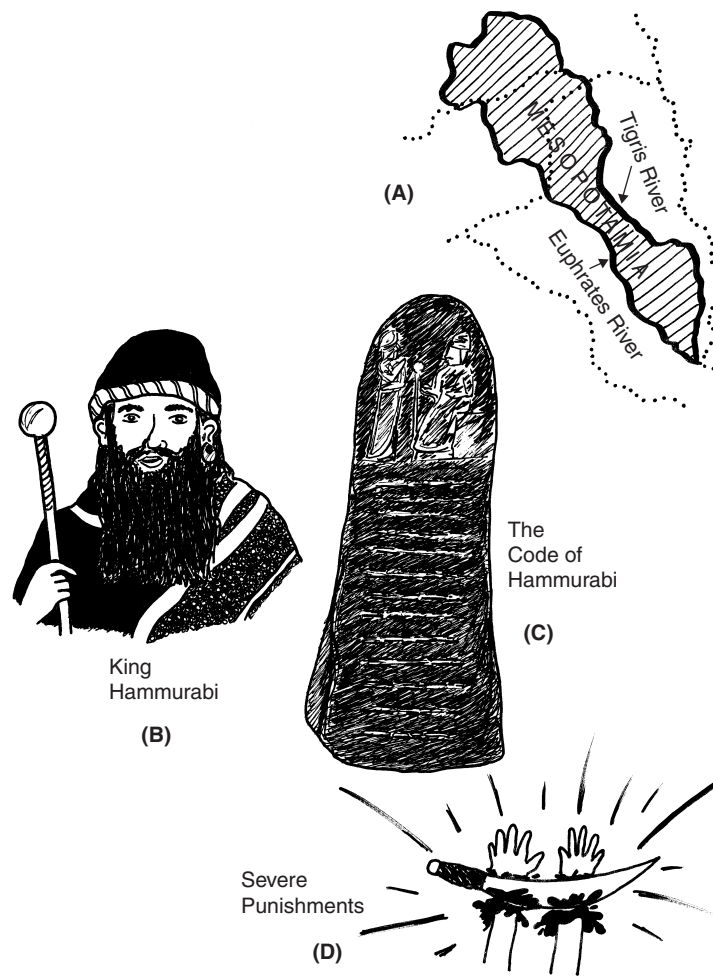


Fig. 1.2 The Code of Hammurabi and its severe punishments.

is now known as Iraq. [**Study suggestion:** Look carefully at the map drawn in Figure 1.2 A. What two rivers, specifically, did Mesopotamia occur between?]

In this fertile land "between the rivers," a great civilization developed. *King Hammurabi* (ham-uh-**RAH**-bee) was an efficient ruler who created a great new system of laws for Mesopotamia. These laws thus became known as the *Code of Hammurabi*. The Code was carved upon a spooky-looking black stone monument that was 8 feet high. (See Figure 1.2 C.)

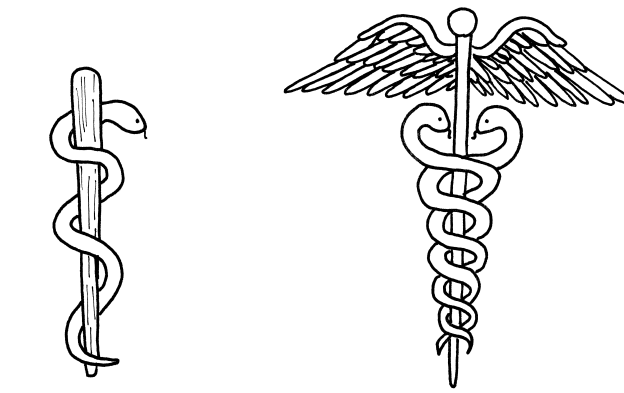
The stone was probably erected in a public square, where everyone could see it plainly. A modern translation of this Code reveals why citizens really needed to pay attention to it! The Code of Hammurabi provided a set of laws that governed all kinds of citizen conduct, including those of early physicians. But even more important, it included a precise listing of severe punishments for breaking these laws! Consider these examples: "If a man put out the eye of another man, his eye shall be put out. [An eye for an eye]. If a man knock out the teeth of his equal, his teeth shall be knocked out. [A tooth for a tooth]. If he break another man's bone, his bone shall be broken. If a man give his child to a nurse and the child die in her hands, but the nurse unbeknown to the father and mother nurse another child, then they shall convict her of having nursed another child without the knowledge of the father and mother, and her breasts shall be cut off."

Laws and punishments for physicians accused of misconduct were no less severe under the Code. We have, for instance, this frightening directive: "If a physician make a large incision with the operating knife, and kill him, or open a tumor with the operating knife, and cut out the eye, his hands shall be cut off." (Review Figure 1.2 D.) Quite obviously, then, there was no need for malpractice insurance in those days!

HEALING, NOT HURTING: ENTER THE ANCIENT GREEKS AND ASCLEPIUS

While the Code of Hammurabi was a strict and merciless body of laws governing the conduct of healers, it seemed to actually promote *hurting* more than *healing*, didn't it? Perhaps this is why our main tradition of healing in Western Medicine has largely come down from the Ancient Greeks, who worshipped many gods of healing.

Greek myths of healing due to divine intervention by the gods were eventually mixed in with the curing work of real people. One of the most important of these was *Asclepius* (as-**KLEE**-pea-us), a famous physician who practiced in Greece around 1200 BC. He was very skillful in his use of natural herbs and surgery, and soon founded a large order of priest-physicians. They controlled the sacred



(A) The Traditional Symbol for Medicine

(B) The Caduceus

Fig. 1.3 Two common symbols for medicine.

secrets of healing and passed them on, from father to son. Eventually, temples of Asclepius were built throughout Greece, and they spread to Rome and much of Italy. At such temples, sick pilgrims would come to sleep, rest, and be prayed over by the priest-physicians.

Asclepius adopted the sacred snake as his symbol for healing. This was because the snake periodically sheds its skin, which is then regrown or "healed." Thus, every temple of Asclepius had many sacred snakes slithering through its hallways—and probably crawling over the bodies of the sleeping pilgrims! Over time, a single snake coiled around a wooden staff carried by Asclepius became the traditional symbol for medicine (Figure 1.3 A).

Interestingly, this symbol differs from the *caduceus* (kuh-**DEW**-see-us) or "staff of Mercury" (Figure 1.3 B). The caduceus is composed of a central staff with two snakes entwined in opposite directions around it, with a pair of wings placed on top. The caduceus was carried by *Mercury,* the winged "Messenger of the gods." It is sometimes used as an emblem of the medical profession, because the two snakes can represent the struggle between the powers of Life and Death.

The Romans made statues of Asclepius holding a staff with its single serpent. Eventually, the fame of Asclepius became so great that, legend has it, *Zeus* (ZOOS), the Father of the Gods and the People, became angry and jealous. *Hades* (**HAY**-deez), God of the Underworld, also complained to Zeus that Asclepius was healing far too many mortals and even bringing some back from the dead, thereby reducing the population of the Underworld! Zeus therefore struck Asclepius down with a bolt of lightning (Greek myth says) to eliminate his excessive skill as a great physician (Figure 1.4). As far as we know, Asclepius

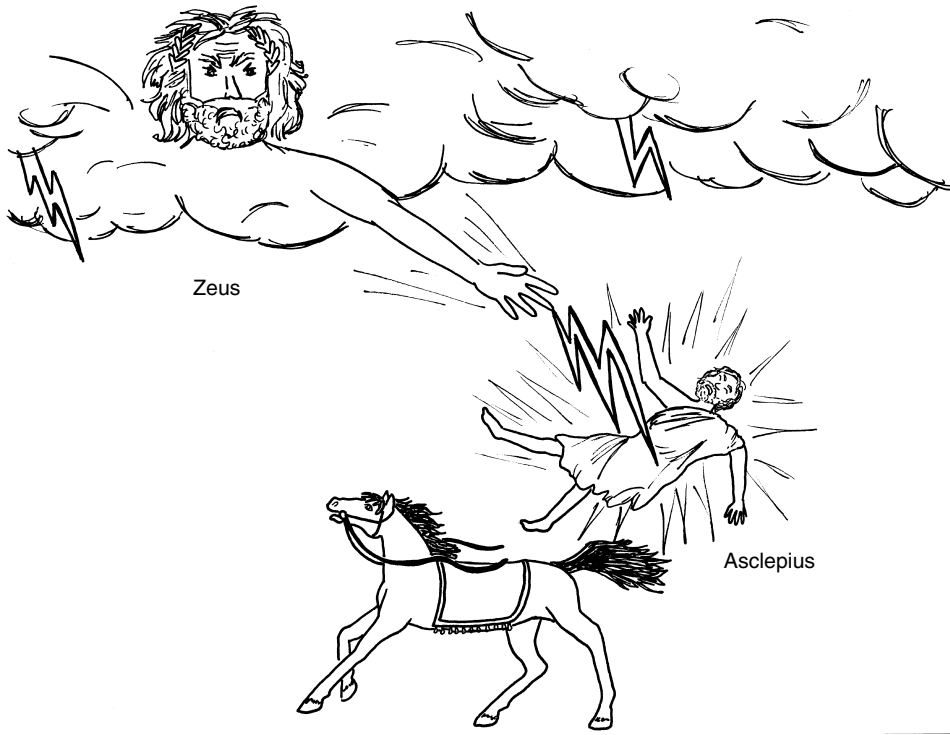


Fig. 1.4 Zeus striking down Asclepius with a lightning bolt.

(the real mortal man) may actually have been killed by a lightning bolt while wandering through the countryside.

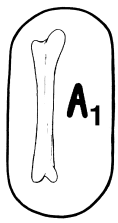
After his death, this myth of Asclepius grew until he finally became known as the God of Healing. The temples of Asclepius continued to spread throughout much of the Roman empire. Every night for more than a thousand years, sick pilgrims would come and sleep in the temples, where the priest-physicians would give them herbal remedies and pray to Asclepius (the God of Healing) for supernatural intervention.

THE GREEK FOUNDATION OF MODERN MEDICINE: HIPPOCRATES

Asclepius and his followers emphasized *supernatural* remedies for healing, such as that of fasting and praying to the Greek gods. Yet, while Asclepius was still alive, another Greek physician, Hippocrates, began to take a different route. Hippocrates, as we have mentioned, is considered the Father of Modern

Medicine because he emphasized a logical and *natural* route to wellness. He believed that medical treatment should assist nature in healing the body. He considered changes in diet first, then turned to drugs and surgery as a last resort. He liked to feed his patients a watery *gruel* (**GROO**-el) or "meal" of thin porridge containing barley. His main medicine was honey: "The drink to be employed should there be any pain is vinegar and honey. If there be great thirst, give water and honey." He made many important observations that are as true today as they were in his own time. For example, his saying that "Fat persons are more exposed to sudden death than the slender" reflects what we know today about the relationship between obesity and increased risk for heart disease.

Perhaps most important, Hippocrates turned to love and kindness in his dealings with patients: "For where there is the love of man, there is also the love of the Art." This central concern for the patient's welfare is reflected in the *Hippocratic* (**hip**-uh-**KRAT**-ik) *Oath*. The Oath provided kindly guidelines for future physicians, such as this line: "I will follow that method of treatment which, according to my ability and judgment, I consider for the benefit of my patients, and abstain from whatever is deleterious and mischievous." Even today, the Hippocratic Oath is sworn by many graduating medical students.



Hippocrates became fairly knowledgeable in the subject of *anatomy* (**ah-NAT**-oh-me). We can define anatomy as body structure, and the study of body structures. Because Hippocrates was able to heal fractured bones by forcing the broken ends back together in the proper way, for instance, he must have had some expertise in bone anatomy.

In this book, many of the chapters will have background information on related *normal anatomy* of the healthy, uninjured human body. [**Special note:** A closely related book in this series, *ANATOMY DEMYSTIFIED*, discusses body structures in great detail.] To help us identify a certain key fact about normal anatomy, an icon of a normal *long* bone will be shown in the nearby page margin. In addition, a black capital letter *A* will indicate that the fact is about anatomy. (Figure 1.5 shows such an Anatomy Memory Pill.) A picture of a long bone followed by *A1*, for example, will indicate "anatomy, key fact #1."

PHYSIOLOGY AND GALEN

To be sure, Hippocrates and other Greek healers had some significant knowledge about the anatomy of the body parts they treated. "But what good is *treating* injured or diseased body structures if they don't *do* what they did *before* their anatomy was disturbed in the first place?" the impatient reader might feel a need to ask.

In essence, such an impatient reader would be asking a question about *human physiology* (**fih**-zee-**AHL**-uh-jee). By the word *physiology*, we mean body

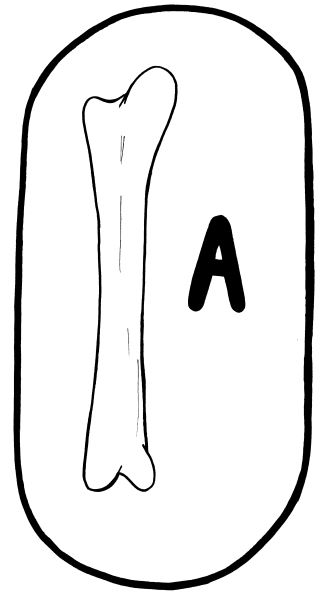


Fig. 1.5 An intact long bone serves as an Anatomy Memory Pill to emphasize key facts about normal body structure.

functions and the study of body functions. "What is a body function?" A body function is something that a particular body structure *does*, or something that is *done to* a body structure. [Another close relative, *PHYSIOLOGY DEMYSTIFIED*, handles body functions in considerable depth.] For the bones, we can consider the physiology of the various *skeletal* (**SKEL**-uh-**tal**) *muscles*, which are attached to the bones of the skeleton.

Whenever a certain skeletal muscle shortens or contracts, it carries out the body function (physiology) of pulling upon its attached bone (Figure 1.6). When the bone is pulled upon hard enough, part of the body moves. [**Study suggestion:** When looking at Figure 1.6, ask yourself, "What does the skeletal muscle *itself* represent—anatomy, or physiology?"]

Since Figure 1.6 shows the *physiology* of body movement, we will use it as our general symbol or icon to label key text facts representing various examples of physiology. (Specifically, we shall use it as our Physiology Memory Pill!) As the physiology icon in a page margin, the contracting muscle and its moving bone will be accompanied by a white capital letter *P*, denoting physiology. A picture of contracting muscle pulling upon its bone, followed by *P1*, for instance, will indicate "physiology, key fact #1."

"Who was it, in history, who *first* really developed this concept of physiology or study of body function?" the interested reader might now question. The

Fig. 1.6 The Physiology Memory Pill: Contraction (shortening) of a skeletal muscle produces the function of body movement.

answer is a man named *Claudius Galen* (**GAY**-lun). Galen lived in Greece and Rome from AD 130 to 200, several hundred years after Hippocrates. Galen was both a philosopher and a physician. He is often called the Father of Experimental Physiology.

As shown in Figure 1.7, Galen dissected or cut apart *living* animals (such as pigs) to discover their body functions. Blood spurted out of the cut Galen made in the wall of the living pig's heart as it pumped the blood. Therefore, the pumping of the blood by the living heart during Galen's experiment was a prime example of physiology (body function).

VESALIUS: THE FOUNDER OF MODERN ANATOMY

As we have seen, Hippocrates, the Father of Modern Medicine, had considerable knowledge about anatomy. His successor, Galen, as the Father of Experimental Physiology, added significantly more information about normal body functions. He discovered, for example, that *arteries* actually contained blood, rather than air (as had been thought by earlier Greeks). Most unfortunately, however, Galen made numerous errors in his writings. He knew that the heart set the blood into motion, yet he failed to realize that the blood actually *circulated* throughout the body! For hundreds of years, even into the Middle Ages of Europe, scholars

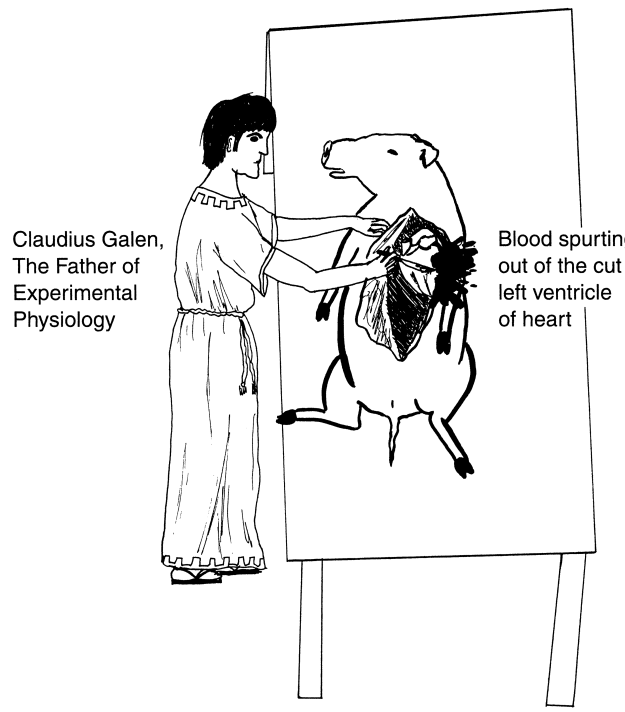


Fig. 1.7 Galen shows the pumping physiology of a living pig heart.

simply "took as gospel" whatever Galen had written—including his errors about the true nature of the blood circulation!

Part of the problem was a reluctance to challenge the authority of the Father of Experimental Physiology. Another problem was a great fear of dissecting human *cadavers* (kuh-**DAV**-ers)—bodies that have "fallen dead" (*cadav*). Galen had been a surgeon to the Roman gladiators, but even *their* bodies were considered sacred vessels of the soul. Thus, it was not considered morally proper to dissect them!

A definite advance came between 1514 and 1564 with the work of an Italian professor named *Andreas* (an-**DRAY**-us) *Vesalius* (vih-**SAY**-lee-**us**). Unwilling to blindly follow the teachings of Galen, Vesalius pioneered the really thorough dissection of cadavers to discover the truth for himself. Quite often, the source of bodies for dissection was the hangman's noose! Vesalius would frequently cut the hanging bodies of dead criminals from the gallows, and then examine them on his dissection table (Figure 1.8). Artists would make careful sketches of the body's inner anatomy while Vesalius went about his work. The resulting books were of great value and established Vesalius as the Father of Anatomy.

Fig. 1.8 Vesalius pioneers the thorough dissection of cadavers.

Diseases, Injuries, and Therapies

Sometimes neither anatomy (body structure) nor physiology (living body functions) is normal. In such cases, we have a *disease* or *injury*. An example that immediately comes to mind is a *fractured* (broken) bone. When we discuss key terms of disease or injury in this book, therefore, we will tag them with a *broken bone* and a spotted capital *D* (for *Disease*). This will give us a good Disease Memory Pill (Figure 1.9). [**Study suggestion:** Why do you think we have made this disease icon a *spotted* capital D?]

Finally, we should remember that this book teaches us about *medical* terminology. We can dissect or "cut up" the Latin word *medical* by inserting a slash (/) into it. This gives us *medic / al*. Now, *medic* literally (exactly) means "healing," while *-al* means "pertaining to." Hence, the Latin word *medical* literally translates to mean "pertaining to healing" in common English.

We can now ask ourselves, "What word should we use to indicate a treatment that will help promote the healing of a disease or injury?" [**Hint:** This medical term, like the word *treatment*, starts with the letter t. What is it? Take a guess, and then check your answer as you read on!]

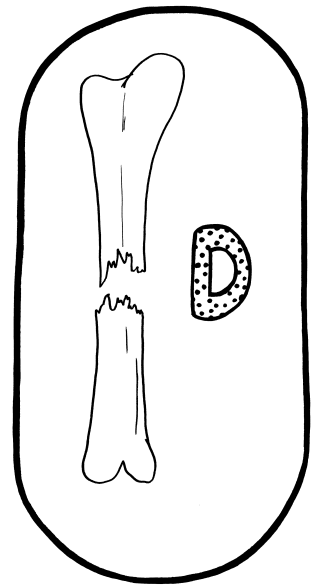


Fig. 1.9 A fractured bone as a "Disease/Injury Memory Pill."

The answer, of course, is *therapy*. A *therapy* is some particular type of medical treatment. When you think of getting some treatment or therapy, doesn't a syringe with a needle come to mind? That's why Figure 1.10 serves as our Therapy or Treatment Memory Pill. The syringe is filled with medicine, and the needle delivers the therapy or treatment via an injection. The cross-hatched capital *T*, of course, is an abbreviation for either *Treatment* or *Therapy.*

"So, Just *Where* Do We Put Our *'Memory Pills'*?"

So far in this chapter, we have been introducing a large amount of information about medical background and history (including normal anatomy and physiology), as well as an overview of diseases, injuries, and therapies.

"Okay, but just *where* should we be putting these key text facts (tagged in the margins as Memory Pills)?" The answer should be quite obvious. [**Hint:** When you are away from home, traveling, what do you use to carry a few days of vitamins and other pills?] Figure 1.11 provides the container: a "Memory Pillbox!"

So that we don't get our "pills" (key facts) mixed up, we will store each type within its own "pillbox"! Specifically, we will have five different types of memory pill boxes: History Pillboxes, Anatomy Pillboxes, Physiology Pillboxes,

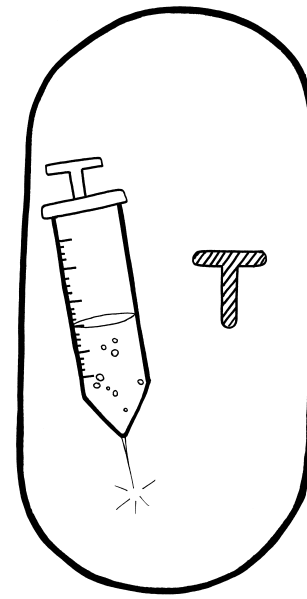


Fig. 1.10 A syringe and needle serves as our Therapy Memory Pill.

Disease/Injury Pillboxes, and Therapy Pillboxes. In other words, these are the five basic categories of medical knowledge, which are to be "filled" with key facts from each chapter. And each of these rectangle-shaped "pillboxes" will open up as a grid or *matrix* (**MAY**-tricks) consisting of four numbered cells or squared regions (Figure 1.12). It is within each of these four smaller regions of each grid that you should write a brief summary of the key facts labeled in the chapter. [*NOTE*: These grids or "pillboxes" are provided in a special section at the end of each chapter.]

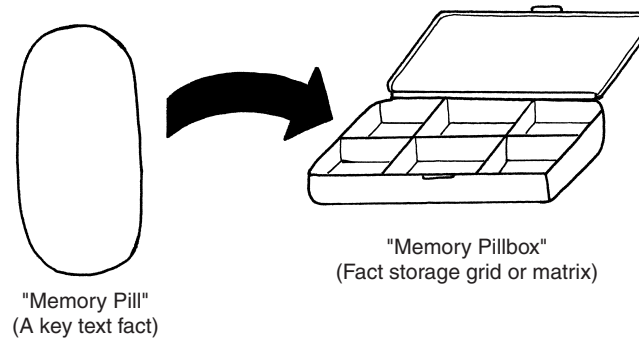


Fig. 1.11 A memory "pillbox" that can store key facts (memory pills) covered in each chapter.

1	2
3	4

Fig. 1.12 The actual four-unit grid or matrix within which you should briefly write a summary of each key text fact.

Medical Terms and Word Parts

Each medical term contains one or more *roots*. A *root* is the main idea or concept of a word. It is called a root because it fixes or anchors a word in the ground of meaning. (In this way, the word root is somewhat like a *real* root that anchors a tree into the ground, isn't it?) Remember that we earlier dissected or "cut up" the Latin term, *medical*. Its root (main idea) is _____, which means "healing" in common English. [**Study suggestion:** Try to fill in this blank from memory, then check your answer as you read.]

The root in *medical* is *medic*, which means "healing." You know, as long as we're comparing a medical term to the parts of a tree, why not compare it to the parts of the human body as well? In this case, we can think of the root or main idea of a medical word as being like the *trunk* or *torso* (**TOR**-soh) of the human body. As Figure 1.13 shows, the trunk or torso represents the main mass of the human body—that is, the part not including the head or limbs (arms and legs). This is very interesting, because the word *torso* literally means "stem" in Latin. Therefore, the trunk (torso) is the main "stem" of the human body, just as *medic* is the root or main part of the word *medical*.

In humans, the trunk or torso consists of the *thorax* (**THOR**-aks) or "chest," the *abdomen* (**AB**-doh-**men**) or "body midsection," and the *pelvis* (**PEL**-vis) or "bowl present" between the two hip bones. Coming before the trunk (torso), we find the head and neck. And coming after the bottom of the trunk (torso), of course, we find the legs.

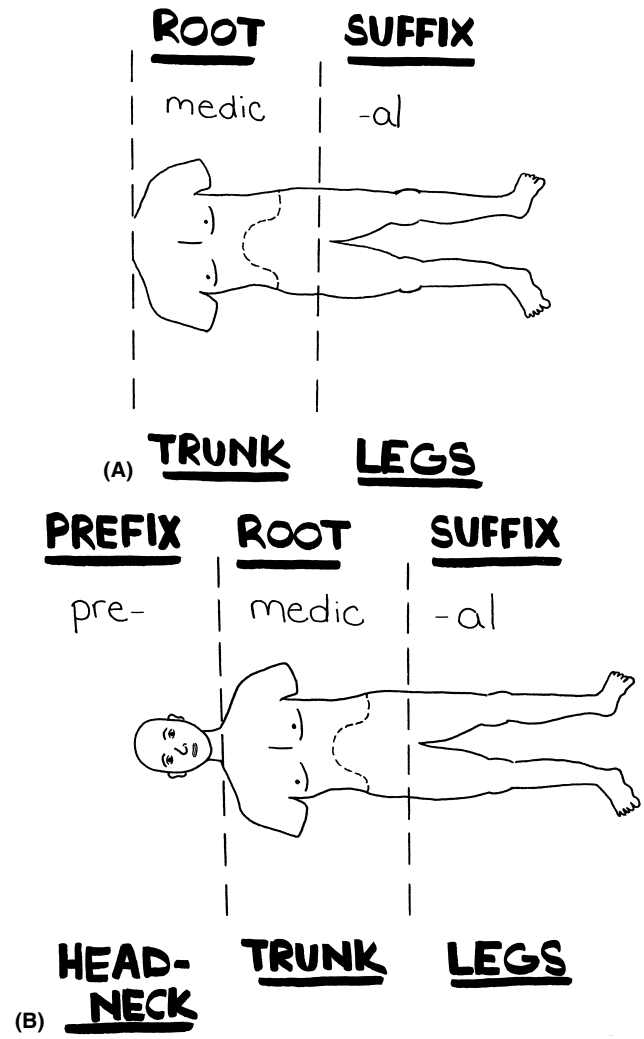


Fig. 1.13 Two different kinds of dissection or "cutting apart": one of the human body, and one of a medical term. (**A**) The root is to the suffix in *medic/al* as the body trunk (stem) is to the legs. (**B**) The *prefix* comes before the word *root* in *pre/medic/al*, like the *head* comes before the *trunk* of the body, and the *suffix* comes after the word *root* in *pre/medic/al*, like *legs* come after the body *trunk*.

WORD DISSECTION OR ANALYSIS

If we *dissect* (cut up) or analyze the whole human body, we obtain its three main parts—the head, trunk (torso), and limbs. Likewise, *word dissection* or *analysis* is the cutting up of a medical term into its component *word parts*. For the word *medical*, you may recall that these were *medic* (the root for "healing") plus *-al*. The word part *-al* is called a *suffix*. A suffix is a letter or letters that follows the root and modifies the meaning of a word. Now, the suffix *-al* means "_____" in regular English. [**Study suggestion:** Try to fill in the preceding blank from previous info in this chapter, then check your answer as you read further.]

WORD TRANSLATION

When we dissect a medical term, we insert one or more slashes (/) into it. In contrast, we dissect the human body using knives or *scalpels* (**SKAL**-pulls). After we have cut up the term, we can do a *word translation*. This is the rewriting of a medical term into its literal (exact) common English meaning. The word *medical*, for instance, literally translates to mean "_____" in common English. [**Study suggestion:** Again, try to fill-in the preceding blank, then check as you read.]

Did you get the right answer? Of course, *medic/al* literally "pertains to" (*-al*) "healing" (*medic*). Note that the meaning of the suffix almost always comes *first* in the common English translation of a medical term.

WORD BUILDING OR SYNTHESIS

Another important skill in medical terminology is *medical word building* or *synthesis*. This is the building up or synthesis of a new medical word by combining two or more word parts together. If we glance back at Figure 1.13, for example, we see a new term, *premedical* (pree-**MED**-ih-**kal**). To build this term, we must add *pre-*, a *prefix*, before the root *medic*. A prefix is a letter or group of letters that comes before a root, thereby modifying the meaning of a word. In *premedical*, the prefix *pre-* means "before." And we still keep the suffix *-al*. Putting all of these word parts together via word building results in the new term:

Prefix	+	*Root*	+	*Suffix*	=	*A new medical term*
PRE-	+	MEDIC	+	-AL	=	PREMEDICAL

Now, after we have built a new term, we can cross-check its meaning by going in reverse. That is, we dissect the newly built word by inserting one or more slashes and labeling the resulting word parts as either a prefix, root, or suffix:

	Prefix	*Root*	*Suffix*
PREMEDICAL ⟶	PRE/	MEDIC/	AL
	"Before"	"Healing"	"Pertaining to"

The complete translation of *premedical* thus becomes, "pertaining to (the period) before healing." Note that, once again, the meaning of the suffix (*-al*) comes first in the literal (exact) English translation of the term. We have also been somewhat liberal in our translation, adding "(the period)" or something similar within parentheses, so that the translation sounds smoother.

SUMMARY OF WORD PARTS

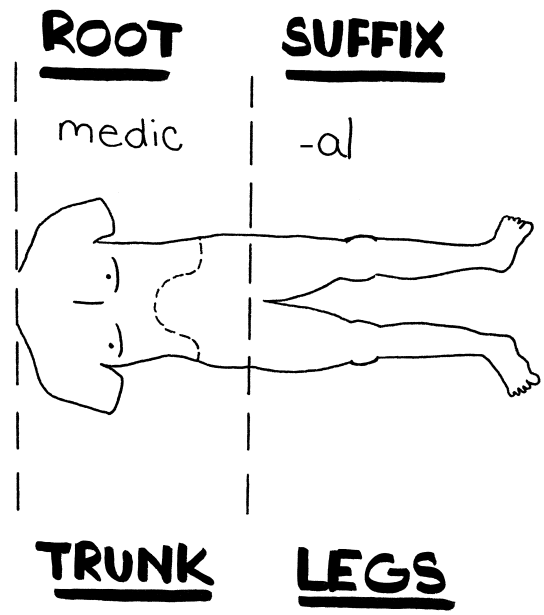
In summary, there are three main types of word parts that make up medical terms: prefixes, roots, and suffixes. **Every single medical term has at least one root and a suffix, but not every medical term has a prefix!** To illustrate this important rule, just consider two of our example words used thus far: *medical* and *premedical*. If you dissect each of these words with slashes, once again, you will find that both *medical* and *premedical* contain a root (*medic*) and the suffix *-al*. However, only *premedical* contains a prefix—in this case, *pre-*.

Revising the idea shown back in Figure 1.13, each medical term always has a trunk or torso (word root) and attached body limbs (especially the legs) coming after it (a suffix). But some words (like some of the poor citizens of Ancient Mesopotamia who suffered severe punishments under the Code of Hammurabi) have lost their heads (prefixes)!

THE MAGIC OF THE COMBINING VOWEL: "A SPOONFUL OF SUGAR HELPS THE MEDICINE GO DOWN!"

Now that we have discussed the three major types of word parts—prefixes, roots, and suffixes—it is time to introduce their frequent helpmate, the *combining vowel*. A combining vowel is a vowel (usually the letter o) added between word parts to make word pronunciation easier. Or as that old saying goes, "A spoonful of sugar (the combining vowel) helps the medical (term) go down (into your brain)!"

The phrase *combining vowel* indicates that the vowel is used to smooth the connection or transition between two neighboring word parts when they are placed together within a term. It is somewhat like the fitting together of adjacent



Body trunk and legs without a head compared to a word without a prefix.

bones in anatomy (Figure 1.14). Consider the root *oste* (**ahs**-tee) connecting to the suffix *-on*. Carrying out the process of word-building (synthesis), we get:

oste	+	*-on*	=	*osteon*
"bone"	+	"presence of"	=	"presence of bone"

Note that *osteon* is smoothly pronounced as **AHS**-tee-ahn. Therefore, the fit of its two component word parts is like a smooth *joint* between two bones—no *cartilage* (**KAR**-tih-**laj**) or "gristle" is required. (See Figure 1.14 A.)

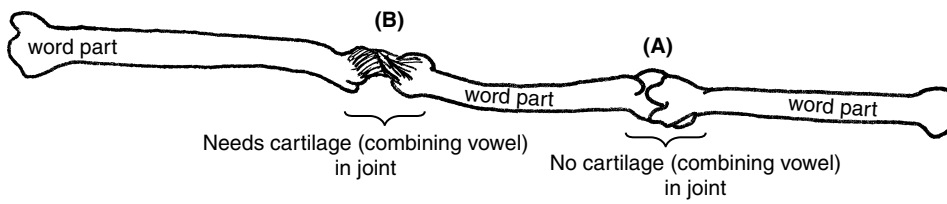


Fig. 1.14 Bone-and-joint metaphors to illustrate the need for a combining vowel. (**A**) "Smooth fit": No combining vowel (no cartilage or gristle) is required between joining word parts (or bones). (**B**) "Rough fit": A combining vowel (like cartilage or gristle) is required between joining word parts (or bones).

Consider, in marked contrast, the important instrument on the dashboard of your car:

speed	+	*o*	+	-meter	=	*speedometer*
		combining vowel	+	"an instrument used to measure"	=	"an instrument used to measure speed"

As you can see from Figure 1.14 B, the combination of *speed* with the suffix *-meter*, is a rough fit: The two consonants (*d* at the end of *speed* and *m* at the start of *–meter)* seem to rub and grate harshly against one another when you pronounce them. This is like a rough-fitting joint between two bones, such that some cartilage or gristle is needed to soften their contact. Just pronounce these two words: *speedmeter* and *speedometer*. From this, you can hear for yourself the truth in the old saying that, "A spoonful of sugar helps the 'med term' go down!"

In general, whenever you are building a new medical term, adding a combining vowel between the word parts never really hurts anything, and it may help make the pronunciation easier! So, go right ahead and do it, if the word sounds better to you!

Quiz

Refer to the text in this chapter if necessary. A good score is at least 8 correct answers out of these 10 questions. The answers are listed in the back of this book.

1. Primitive medicine is at least _____ years old.
   (a) 500
   (b) 1,000
   (c) 5,000
   (d) 10,000

2. The Code of Hammurabi was important because it:
   (a) Described special monetary rewards for good behavior of doctors
   (b) Established a set of laws and specific consequences for bad medical practice
   (c) Stated for the first time the clear importance of human life
   (d) Removed any doubts that Zeus was "King of the Gods"

3. Asclepius adopted the sacred snake as his symbol for healing, owing to the fact that:
   (a) The bites of poisonous snakes are always fatal
   (b) Snake venom was shown to be a great cure-all in ancient times

(c) The snake periodically sheds, regrows, and in a sense, "heals" its skin
(d) Mercury was the winged Messenger of the Gods

4. The Greek physician frequently labeled as the Father of Modern Medicine:
(a) Hippocrates
(b) Hades
(c) Dr. Lucifer
(d) Asclepius

5. The study of normal body structure:
(a) Physiology
(b) Medical terminology
(c) Morbidity
(d) Anatomy

6. Galen is commonly credited with being The Father of _____:
(a) Modern medicine
(b) Nursing care and treatment
(c) Radiotherapy
(d) Experimental physiology

7. In the word, *premedical*, the part serving as the root:
(a) -al
(b) pre-
(c) emedical
(d) medic

8. Body functions and the study of body functions:
(a) Etymology
(b) Terminology
(c) Physiology
(d) Geology

9. ____ is the prefix in premedical.
(a) Pre-
(b) -al
(c) Remedi
(d) Eme-

10. _____ is the suffix in premedical.
(a) -dical
(b) -al
(c) Pred-
(d) -medical

Memory Pillboxes for Chapter 1

Several key facts were tagged with numbered icons in the page margins of this chapter. Write a short summary of each of these key facts into a numbered cell or compartment within the appropriate type of Memory Pillbox that appears below.

Background and History **Pillboxes for Chapter 1:**

1	2
3	4

5	6

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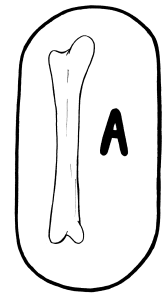
***Anatomy* Pillbox for Chapter 1:**



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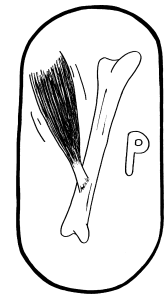
***Physiology* Pillbox for Chapter 1:**



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