

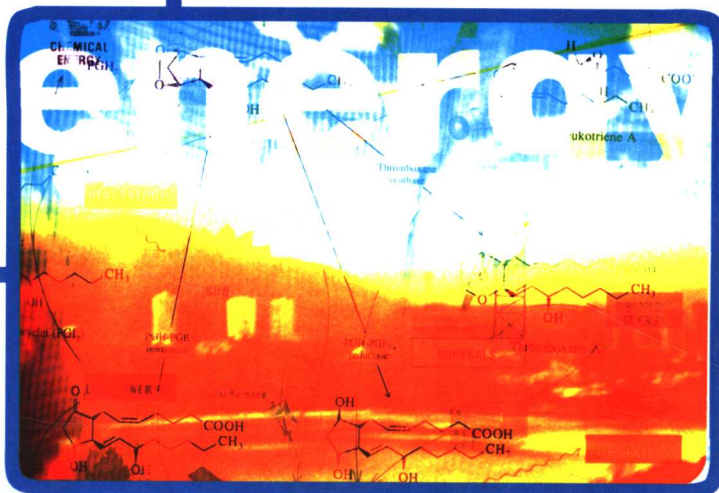
21

世纪高等院校教材

Medical English  
A Course Book

# 医学英语教程

杨小刚 编著



科学出版社  
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北京

## 内 容 简 介

本书为有一定英语基础而又初学医学英语的读者而编写的。全书共十四个单元,每一单元有涉及医学基础和临床知识的读物两篇,同时附有大量的涉及医学英语构词方法、医学英语长难句分析、医学文章阅读的练习,可使读者在较短时间内对医学英语及其特点有比较全面的了解。

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# 前 言

近年来,国内医学英语教材从质和量上都有了很大的变化。以前国内的医学英语教材不太受重视,或许是研究的人甚少,一般都是一些医学文章的组合,附上词汇表和练习,其实就是医学文章阅读,并不能起到医学英语学习的目的,学习者学后收获不大。自《大学英语课程要求》颁布以来,各专业英语的学习受到普遍重视。就医学英语而论,从基础到临床,从听力到会话,从医学术语学习到医学文献阅读,从医学写作到双语教学,可谓无所不有,适应了各方面的需求。在这样的大环境下,我仍然编写了这本书,绝不是想表示编者的水平有多高,只是想满足某一层级学习者的需要,也就是时间少、但又想对医学英语构词和医学文献阅读理解及翻译有一定了解的读者。

本书主要针对初涉医学英语的读者,他们不熟悉医学英语术语的构成和医学文献的结构,同时在阅读理解和翻译上存在一定的困难。为此,在编写过程中,编者参阅了大量的国内外有关书籍和文献。书中各单元有两篇文章,均选自国外医学语言和医学教材原著(个别地方编者予以改动),并以此为基础编写了大量的练习,以助医学术语的学习和医学文献的理解。同时在练习中还选编了一些医学英语长难句,用来训练读者的医学文献长难句分析和翻译能力。

本书的编写得到了许多同行及医学专家的支持和帮助,整个过程中他们给予了许多富有建设性的建议。此外川北医学院教务处也在编写和初稿打印方面给予了极大的帮助,在此一并表示衷心感谢。

由于编者的水平有限,书中疏漏错误在所难免,恳请广大读者不吝赐教,以期再版时修订,我将不胜感激。

编 者

二〇〇六年五月于果城

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# Unit One

## Reading A

### Bones, Muscles and Nerves

The musculoskeletal system includes the bones, muscles, and joints. Each has several important functions in the body. Bones, by providing the framework around which the body is constructed, protect and support our internal organs. Also, by serving as a point of attachment for muscles, bones assist in body movement. The inner core of bones is composed of hematopoietic tissue (red bone marrow manufactures blood cells), while other parts are storage areas for minerals necessary for growth, such as calcium and phosphorus.

Joints are places where bones come together. Several different types of joints are found within the body. The type of joint found in any specific location is determined by the need for greater or lesser flexibility of movement.

Muscles, whether attached to bones or to internal organs and blood vessels, are responsible for movement. Internal movement involves the contraction and relaxation of muscles which are a part of viscera, and external movement is accomplished by the contraction and relaxation of muscles which are attached to bones.

Bones are complete organs, chiefly composed of connective tissue called osseous (bony) tissue plus a rich supply of blood vessels and nerves. Osseous tissue is a dense connective tissue which consists of osteocytes (bone cells) surrounded by a hard, intercellular substance filled with calcium salts.

During fetal development, the bones of the fetus are composed of cartilage tissue, which resembles osseous tissue but is more flexible and less dense because of lack of calcium salts in its intercellular spaces. As the embryo develops, the process of depositing calcium salts in the soft, cartilaginous bones occurs, and continues throughout the life of the individual after birth. The gradual replacement of cartilage and its intercellular substance by immature bone cells and calcium deposits is called ossification (bone formation).

Osteoblasts are the immature bone cells which produce the bony tissue that replaces cartilage during ossification. Osteoclasts (-clast means to break) are large cells which function to reabsorb, or digest, bony tissue. Osteoclasts (also called bone phagocytes) digest dead bone tissue from the inner sides of bones and thus enlarge the inner bone cavity so that the bone does not become overly thick and heavy. When a bone breaks, osteoblasts lay down the mineral bone matter

(calcium salts) and osteoclasts remove excess bone debris (smooth out the bone).

The formation of bone is dependent to a great extent on a proper supply of calcium and phosphorus to the bone tissue. These minerals must be taken into the body along with a sufficient amount of vitamin D. Vitamin D helps the passage of calcium through the lining of the small intestine and into the bloodstream. Once calcium and phosphorus are in the bones, <sup>1</sup>osteoblastic activity produces an enzyme which causes the formation of a calcium-phosphate compound giving bone its characteristic hard quality.

Not only are calcium and phosphorus part structure of bone tissue, but calcium is also stored in bone and small quantities are present in the blood. If the proper amount of calcium is lacking in the blood, nerve fibers are unable to transmit impulses effectively to muscles; heart muscle becomes weak and muscles attached to bones undergo spasms.

The necessary level of calcium in the blood is maintained by the parathyroid gland, which secretes a hormone to release calcium from bone storage. Excess of hormone (caused by tumor or other pathological process) will raise blood calcium at the expense of the bones, which become weakened by the loss of calcium.

Bones all over the body are of several different types. Long bones are found in the thigh, lower leg and upper and lower arm. These bones are very strong, and broad at the ends where they join with other bones, and have large surface areas for muscle attachment.

Short bones are found in the wrist and ankle and have small, irregular shapes. Flat bones are found covering soft body parts. These are the shoulder bone, ribs, and pelvic bones. Sesamoid bones are small, rounded bones resembling a grain of sesame in shape. They are found near joints; the knee cap is the largest example of this type of bone.

The shaft, or middle region, of a long bone is called the diaphysis. Each end of a long bone is called the epiphysis. The epiphyseal line or plate represents an area of cartilage tissue which is constantly being replaced by new bony tissue as the bone grows. Cartilage cells at the edges of the epiphyseal plate form new bone and this is responsible for the lengthening of bones during childhood and adolescence. The plate calcifies and disappears when the bone has achieved its full growth.

The periosteum is a strong, fibrous, vascular membrane that covers the surface of a long bone, except at the end of the epiphyses. Bones other than long bones are completely covered by the periosteum. Beneath the periosteum is the layer of immature cells (osteoblasts) which deposit calcium-phosphorus compounds in the bony tissue.

The ends of long bones are covered by a thin layer of cartilage called articular cartilage. This cartilage layer cushions the bones at the place where they meet with other bones (joints).

Compact (cortical) bone is a layer of hard, dense tissue which lies under the periosteum in all bones and chiefly around the diaphysis of long bones. Within the compact bones is a system of small canals containing blood vessels which bring oxygen and nutrients to the bone and remove waste products such as carbon dioxide. These channels in the compact bone are called Haversian canals. <sup>2</sup>Compact bone is tunneled out in the shaft of long bones by a central medullary cavity



which contains yellow bone marrow. Yellow bone marrow is chiefly composed of fat cells.

Cancellous bone, sometimes called spongy bone, is much more porous and less dense than compact bone. The mineral matter in it is laid down in a series of separated bony fibers called a spongy latticework. It is found largely in the epiphyses of long bones and in the middle portion of most other bones of the body as well. Spaces in cancellous bone contain red bone marrow. This marrow, as opposed to yellow marrow which is fatty tissue, is richly supplied with blood and consists of immature blood cells in various stages of development.

In an adult, the ribs, pelvic bones, sternum (breastbone), and vertebrae, as well as the epiphyses of long bones, contain red bone marrow within cancellous tissue. The red marrow in the long bones is plentiful in young children, but decreases through the years and is replaced by yellow marrow.

There are three types of muscles in the body.

Striated muscles, also called voluntary or skeletal muscles, are the muscle fibers which move all bones, as well as the face and eyes. We have conscious control over the activity of this type of muscle. Striated muscle fibers (cells) have a pattern of dark and light bands, or fibrils, in their cytoplasm. A delicate membrane called sarcolemma surrounds each skeletal muscle fiber.

Smooth muscles, also called involuntary or visceral muscles, are those muscle fibers which move our internal organs such as the digestive tract, blood vessels, and secretory ducts leading from glands. We have no conscious control over these muscles. They are called "smooth" because they have no dark and light fibrils in their cytoplasm. While skeletal muscle fibers are arranged in bundles, smooth muscle forms sheets of fibers as it wraps around tubes and vessels.

Cardiac muscle is striated in appearance but like smooth muscle in its action. Its movement cannot be consciously controlled. The fibers of cardiac muscle are branching fibers and are found in the heart.

The nervous system is divided into the central nervous system and the peripheral nervous system; the central nervous system is composed of the brain and spinal cord; the peripheral nervous system consists of the cranial and spinal nerves, and their distribution. The nervous system may also be divided into the somatic and autonomic nervous systems.

The conducting cells of the nervous system are termed neurons. A typical motor neuron consists of a cell body which contains the nucleus and gives off a single axon and numerous dendrites. The cell bodies of most neurons are located within the central nervous system, where they aggregate to form nuclei. Cell bodies in the peripheral nervous system aggregate in ganglia.

Axons are the nerve fibers and conduct action potentials generated in the cell body, to influence other neurons or affect organs. They may be myelinated or non-myelinated.

Most nerves in the peripheral nervous system are bundles of motor, sensory, and autonomic axons. The region of the head is largely supplied by the 12 cranial nerves. The remainder of the trunk and the limbs are segmentally supplied by the spinal nerves.

## Word List

musculoskeletal	[ˌmʌskjʊləʊ'skelɪtl]	a. 肌肉骨骼的
marrow	[ˈmærəʊ]	n. 骨髓
calcium	[ˈkælsiəm]	n. 钙
phosphorus	[ˈfɒsfərəs]	n. 磷
viscera	[ˈvɪsərə]	n. 内脏(复)
osseous	[ˈɒsiəs]	a. 骨的,骨性的
fetal	[ˈfi:tl]	n. 胎的
fetus	[ˈfi:təs]	n. 胎儿
cartilage	[ˈkɑ:tilidʒ]	n. 软骨
embryo	[ˈembriəʊ]	n. 胚胎
debris	[ˈdebrɪs]	n. 碎屑,碎片
enzyme	[ˈenzaim]	n. 酶
spasm	[ˈspæzəm]	n. 痉挛
parathyroid	[ˌpærəˈθaɪrɔɪd]	n. 甲状旁腺的
hormone	[ˈhɔ:məʊn]	n. 激素
pathological	[ˌpæθəˈlɒdʒɪkəl]	n. 病理的
pelvic	[ˈpelvɪk]	n. 骨盆的
sesamoid	[ˈsesəməɪd]	a. 籽样的, n. 籽骨
diaphysis	[daɪˈæfɪsɪs]	n. 骨干
vascular	[ˈvæskjələ]	a. 血管的
articular	[ɑ:ˈtɪkjələ]	n. 关节的
epiphysis	[ɪˈpɪfɪsɪs]	n. 骨骺
cortical	[ˈkɔ:tikəl]	a. 皮质的
sternum	[ˈstɜ:nəm]	n. 胸骨
porous	[ˈpɔ:rəs]	n. 多孔的
hematopoietic	[ˌhi:mətəʊpɔɪˈetɪk]	a. 造血的
medullary	[meˈdʌləri]	a. 髓的,髓状的
cancellous	[ˈkænsələs]	a. 网眼状的
latticework	[ˈlætɪswɜ:k]	n. 格子
vertebra	[ˈvɜ:tɪbrə]	n. 椎骨
striated	[ˈstraɪeɪtɪd]	a. 纹状的
cardiac	[ˈkɑ:diæk]	a. 心(脏)的
periosteum	[ˌperiˈɒstiəm]	n. 骨膜
membrane	[ˈmembreɪn]	n. 膜
fibril	[ˈfaɪbrɪl]	n. 纤丝
sarcolemma	[ˌsɑ:kəˈlemə]	n. 肌纤维膜
peripheral	[pəˈrɪfərəl]	a. 边缘的,周围的

somatic	[səu'mætɪk]	a. 体壁的, 身体的
neuron	['njuərɒn]	n. 神经细胞, 神经元
axon	['æksɒn]	n. 神经轴突
dendrite	['dendraɪt]	n. 树突
aggregate	['ægrɪgeɪt]	v. (使)聚集, 集合

## Notes

1. . . . , osteoblastic activity produce an enzyme which causes the formation of a calcium-phosphate compound giving bone its characteristic hard quality.  
 …… , 成骨细胞的活动性产生一种酶使钙磷形成化合物, 使骨具有坚硬特性。
2. Compact bone is tunneled out in the shaft of long bones by a central medullary cavity which contains yellow bone marrow.  
 长骨的骨干致密骨的中心呈长的隧道为骨髓, 其中含有黄骨髓。

## Medical Word Building

1. Combining Form	Pronunciation	Meaning
oste/o	[ 'ɔ:sti ]	bone
sarc/o	[ sɑ:k ]	flesh, muscle
orth/o	[ ɔ:θ ]	straight; normal
calc/o	[ kæl:k ]	calcium
vertebr/o	[ 'və:tibr ]	vertebra; backbone
spondyl/o	[ 'spɒndi ]	vertebra, spine
rachi/o	[ 'reiki ]	spine
lamin/o	[ 'læmin ]	lamina
kyph/o	[ kaɪf ]	hump
lord/o	[ lɔ:d ]	inward curve
scoli/o	[ 'skɔli ]	laterally crooked
myel/o	[ maiəl ]	spinal cord; bone marrow
cervic/o	[ 'sə:vɪk ]	neck
thorac/o	[ 'θɔ:ræk ]	thorax, chest
lumb/o	[ lʌmb ]	loin; lumbar region
arthr/o	[ ɑ:θr ]	joint
articul/o	[ ɑ:'tɪkjʊl ]	joint
burs/o	[ bə:s ]	sac
synovi/o	[ si'nəʊvi ]	synovia; synovium
chondr/o	[ kɒndr ]	cartilage
path/o	[ pæθ ]	disease
fibro/o	[ 'faɪbrəʊ ]	fiber
ten/o	[ tən ]	tendon

tend/o	[ tænd ]	tendon
tendin/o	[ 'tendin ]	tendon
ligament/o	[ 'ligəmənt ]	ligament
syndesm/o	[ sin'dezm ]	ligament
ankyl/o	[ 'æŋkil ]	bent, crooked; stiff
muscul/o	[ 'mʌskjul ]	muscle
my/o	[ mai ]	muscle
myos/o	[ 'maiəʊs ]	muscle
phag/o	[ fæg ]	eating; phagocyte
pub/o	[ pju:ɪb ]	pubis
radi/o	[ 'reidi ]	X-ray; radius
femor/o	[ 'femə ]	femur
carp/o	[ kɑ:p ]	wrist bone
cost/o	[ kɔst ]	rib
crani/o	[ 'kreini ]	skull
<b>2. Suffix</b>	<b>Pronunciation</b>	<b>Meaning</b>
-cyte	[ saɪt ]	cell
-genic	[ 'dʒenik ]	producing; produced by
-blast	[ blæst ]	formative cell
-clast	[ klæst ]	break
-clasis	[ 'klæsiz ]	break
-schisis	[ 'skisis ]	cleft, split
-physis	[ 'fisis ]	growing
-malacia	[ mə'leɪfə ]	abnormal softening
-porosis	[ pə'rəʊsɪs ]	lessening in density
-tomy	[ təmi ]	incision
-oma	[ 'əʊmə ]	tumor
-itis	[ 'aɪtɪs ]	inflammation
-plasty	[ 'plæsti ]	plastic surgery
-osis	[ 'əʊsɪs ]	(diseased) condition
-logy	[ lədʒɪ ]	field of study
-algia	[ 'ældʒɪə ]	pain
-poiesis	[ pɔɪ'ɪsɪs ]	formation, production
a (an)-	[ ə ]	not; lacking; absence of
peri-	[ 'peri ]	near, around

## Practice

### I. Translate the following medical terms into Chinese.

1. osteitis \_\_\_\_\_

2. spondylitis \_\_\_\_\_

- |                         |                         |
|-------------------------|-------------------------|
| 3. rachialgia _____     | 4. myeloma _____        |
| 5. arthroplasty _____   | 6. arthrotomy _____     |
| 7. tendoplasty _____    | 8. chondromalacia _____ |
| 9. chondroma _____      | 10. osteoblast _____    |
| 11. syndroma _____      | 12. myosarcoma _____    |
| 13. fibromyositis _____ | 14. cervicitis _____    |
| 15. lordosis _____      | 16. osteology _____     |
| 17. pathogenic _____    | 18. fibroblastoma _____ |

**II. Translate the following medical terms into English.**

- |                 |                  |
|-----------------|------------------|
| 1. 肌炎 _____     | 2. 破骨细胞 _____    |
| 3. 脊柱裂 _____    | 4. 骨软化 _____     |
| 5. 骨质疏松 _____   | 6. 滑膜切除术 _____   |
| 7. 滑膜瘤 _____    | 8. 胸廓成形术 _____   |
| 9. 骨关节炎 _____   | 10. 骨软骨瘤 _____   |
| 11. 韧带切除术 _____ | 12. 肌瘤 _____     |
| 13. 纤维肉瘤 _____  | 14. 子宫颈切除术 _____ |
| 15. 脊柱侧凸 _____  | 16. 关节痛 _____    |
| 17. 病理学 _____   | 18. 纤维细胞 _____   |

**III. Multiple choice**

- \_\_\_\_\_ is a kind of benign bone tumour.  
A. Myeloma      B. Myoma      C. Osteoma      D. Synovioma
- Softening of the bones caused by a deficiency of vitamin D, either from a poor diet or lack of sunshine or both, is \_\_\_\_\_.  
A. osteoblast      B. osteomalacia      C. chondromalacia      D. chondrogenesis
- A cell, originating in the mesoderm of the embryo, that is responsible for the formation of bone is called \_\_\_\_\_.  
A. chondroclast      B. osteoclast      C. chondroblast      D. osteoblast
- Bony means \_\_\_\_\_.  
A. skeletal      B. muscular      C. osseous      D. chondrogenesis
- \_\_\_\_\_ is a bone cell; an osteoblast that has ceased activity and has become embedded in the bone matrix.  
A. Phagocyte      B. Chondrocyte      C. Fibrocyte      D. Osteocyte
- \_\_\_\_\_ is the formation of bone, which takes place in three stages by the action of special cells (osteoblasts).  
A. Ossification      B. Calcification      C. Cartilage      D. Sternum
- \_\_\_\_\_ is a large multinucleate cell that resorbs calcified bone and are only found when bone is being resorbed and may be seen in small depressions on the bone surface.  
A. Periosteum      B. Osteoclast      C. Hemopoietic      D. Sesamoid
- A cell that is able to engulf and digest bacteria, protozoa, cells and cell debris, and other

small particles is known as \_\_\_\_\_.

- A. myocyte                      B. osteocyte                      C. phagocyte                      D. fibrocyte

9. \_\_\_\_\_ is a sustained involuntary muscular contraction, which may occur either as part of a generalized disorder or as a local response to an otherwise unconnected painful condition.

- A. Vertebra                      B. Sternum                      C. Parathyroid                      D. Spasm

10. \_\_\_\_\_ is the part of the alimentary canal that extends from the stomach to the anus.

- A. Intestine                      B. Enzyme                      C. Embryo                      D. Diaphysis

**IV. Fill in the following blanks with proper words.**

1. A layer of dense connective tissue that covers the surface of a bone except at the articular surfaces is known as \_\_\_\_\_.
2. Cervical traction is applied as a treatment for an injured \_\_\_\_\_.
3. The sternum is commonly called the \_\_\_\_\_.
4. A \_\_\_\_\_ is a collection of nerve cell bodies.
5. The wrist bones are the \_\_\_\_\_.
6. Inflammation of the cervix of the uterus is known as \_\_\_\_\_.
7. The suffix means split, cleft, or fissure is \_\_\_\_\_.
8. The bones of the fingers and toes are called \_\_\_\_\_.
9. \_\_\_\_\_ is the suffix meaning pain.
10. The study of fungi is known as \_\_\_\_\_.
11. Excision of the lamina of the vertebral posterior arch is called \_\_\_\_\_.
12. \_\_\_\_\_ is the inflammation of the spine.
13. The \_\_\_\_\_ is the upper arm bone, extending from the shoulder to the elbow.
14. The \_\_\_\_\_ is the inner and larger bone of the forearm, on the side opposite to the thumb.
15. The hip bone is the \_\_\_\_\_, formed by the sacrum, coccyx (tailbone), and the ilium, pubis and ischium.

**V. Choose the definition from Column B that best matches the word, combining form or affix in Column A.**

**Column A**

1. arthr/o
2. path/o
3. fibr/o
4. -clast
5. -tomy
6. -poietic
7. osteomyelitis
8. chondrocostal
9. epiphysis
10. diaphysis

**Column B**

- a. the end of a long bone
- b. inflammation of bone and bone marrow
- c. break
- d. pertaining to cartilage attached to a rib
- e. joint
- f. incision
- g. the shaft of a long bone
- h. disease
- i. fiber
- j. productive

## VI. Cloze

The temperature of your body should be always just the same, no matter whether the weather is hot or cold. That is 1 the doctor uses his thermometer when you are sick. When you are well, your temperature is ninety-eight and six tenths degrees. If he finds it 2 than that, it is a sure sign 3 something is wrong.

The body keeps the same temperature all the time, because it balances the heat it produces and 4 off. It is always burning up 5 and producing heat. It can produce heat faster when it needs to or give off heat when it become too warm. Let's see 6 this happens.

The heat of your body is given off 7 through the skin. When you are 8, your skin is tight and 9 "goose flesh". When you get chilly, you must dance around to keep warm or 10 you will shiver. 11 your muscles begin to work, burn up fuel, and produce more heat. It is not 12 to shiver, so you usually prefer warming up by exercise, or put 13 more clothes to keep heat in.

When you are warm, the skin is loose and soft. It is so supplied 14 blood that heat is given off rapidly. If you get too hot, you begin to sweat, and 15 body heat is used in evaporating the moisture from your skin. You wear less clothing, too, in warm 16 or in a warm room, so that warm can be given off freely. You feel you don't 17 exercising because your body is warm 18, and the extra heat produced by exercise makes you uncomfortable.

You can see from this why you 19 differently in different kinds of weather. In summer, when it is warm, you feel tired and lazy. You do not care to work or play, but enjoy lying and doing nothing. When you get out of doors in winter, the cold air makes you feel 20. You want to run and play.

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|------------------|----------------|-----------------|----------------|
| 1. A. because    | B. why         | C. since        | D. for         |
| 2. A. taller     | B. better      | C. superior     | D. higher      |
| 3. A. which      | B. when        | C. that         | D. where       |
| 4. A. gives      | B. puts        | C. shows        | D. keeps       |
| 5. A. meals      | B. food        | C. nutrition    | D. wood        |
| 6. A. how        | B. when        | C. what         | D. why         |
| 7. A. possibly   | B. immediately | C. chiefly      | D. quickly     |
| 8. A. warm       | B. hot         | C. cool         | D. cold        |
| 9. A. has        | B. shows       | C. takes        | D. gives       |
| 10. A. but       | B. well        | C. so           | D. else        |
| 11. A. However   | B. While       | C. Then         | D. Therefore   |
| 12. A. glad      | B. pleasant    | C. surprising   | D. polite      |
| 13. A. off       | B. away        | C. up           | D. on          |
| 14. A. by        | B. with        | C. through      | D. of          |
| 15. A. more      | B. enough      | C. many         | D. little      |
| 16. A. weather   | B. climate     | C. circumstance | D. environment |
| 17. A. desirable | B. like        | C. wanting      | D. hate        |

18. A. yet                      B. still                      C. already                      D. too  
19. A. wear                      B. feel                      C. dress                      D. sweet  
20. A. lively                      B. lovely                      C. anxious                      D. depressed

### VII. Reading comprehension

In order to carry out their specialized activities, the cells of the body are grouped together into larger structures. A tissue consists of a group of similar cells along with the material between the cells, which are organized to carry out a particular function. There are 4 major types of tissues: epithelial, connective, nervous, and muscular, each of which has a special function to perform.

Different types of tissue are combined into larger functional units known as organs. An organ is defined as a group of tissue working together to perform a particular function. The heart, for example, is an organ made up of epithelial tissue which protects it, muscle tissue which is responsible for the actual contractions, nervous tissue which controls it, and connective tissue which holds the other tissue together.

Finally, a number of different organs may act together to perform a particular function. Such a collection of organs is known as an organ system. In human body there are 9 organ systems: the muscular system, the circulatory system, the digestive system, the respiratory system, the excretory system, the reproductive system, the nervous system, and the endocrine system. The lungs and the air tubes form the respiratory system; the heart and the blood tubes along which blood flows round the body compose the circulatory system; and the food tubes constitute the digestive system.

To sum up, there are 4 basic levels of organization within the body: the individual cells, tissues, organs and organ system.

1. Groups of cells are combined to form a higher unit called \_\_\_\_\_.  
A. an organ                      B. a system                      C. an organ system                      D. a tissue
2. There are \_\_\_\_\_ major types of tissue.  
A. 4                      B. 9                      C. 6                      D. 3
3. In human body there are \_\_\_\_\_ organ systems.  
A. 7                      B. 10                      C. 8                      D. 9
4. The function of the epithelial tissue is to \_\_\_\_\_.  
A. hold the other tissue together                      B. make actual contractions  
C. control the organ                      D. protect the organ
5. The digestive system is composed of the stomach and the \_\_\_\_\_.  
A. food tubes                      B. blood tubes                      C. water tubes                      D. air tubes

### VIII. Analyse and translate the following long and difficult sentences into Chinese.

1. These phases differ only in degree, the first consisting of mild replicas of the second, and the third a persistence of the same state showing increased violence and indefinite prolongation, to be followed by degenerative changes due to the long-continued raised tension and hyperaemia.
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2. There must be a relation between the chemistry of contraction and the molecular morphology of myofilaments on one hand and the phenomena observed grossly as mechanical properties of any heat production by whole muscle on the other hand.  

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  3. In some patients inability to describe their distress or atypical localization and symptomatology may make it impossible to appraise the condition with assurance on the initial examination.  

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  4. Dramatic relief from arthralgia and tissue, such as finger clubbing and periosteal proliferation, may follow removal of a pulmonary tumor.  

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  5. Progressive variation in antigenic composition, particularly marked with influenza A and B viruses, is more striking than with any other virus infecting man and has seriously affected efforts to prevent the disease with vaccines.  

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  6. In addition, therefore, to the factor of pressure acting both upon the ganglion cells and the nerve fibers, that of ischemia due to vascular sclerosis is probably of great, and sometimes of supreme importance.  

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  7. A number of investigators have reported the presence in the serum of patients in the early higher stages of acute viral hepatitis of widely varying proportions (13% ~ 18%) of an antigen vari-ously referred to as the Australia antigen, the SH antigen, and the hepatitis antigen.  

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  8. Portal venous blood differs from most other venous blood in being under slightly higher pressure in order to overcome the resistance of the hepatic sinusoids, in being less depleted on oxygen of the relatively high blood flow through the splanchnic area, and in containing many nutrients