涉外护理英语
中级教程

总主编　华仲乐
主　编　朱　琦
副主编　吴雪蕾　王彩凤
编　者　(按姓氏笔画排列)
王晓洁　王彩凤　朱　琦　吴雪蕾

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序

在我国进入改革再深入的新发展时期，国民对医疗卫生服务需求日新月异，国家在医疗卫生领域投入不断加大。面对需求日益更新的新局面，培养更多素质高、能力强的护理人员这一任务已日渐紧迫。提高护理专业学生的英语能力，也成为一项重要的任务。《涉外护理英语教程》就是在这样的形势下，在原来高教社《涉外护理英语系列教材》的基础上，根据教育部关于修订现有教材的要求编写而成的。教材的使用对象主要为各高职高专护理专业的学生。

对于英语教学，人们早已不再满足于教一点语言知识，应付一些考试。使英语教学更切合实际的呼声异常高涨，引入专业英语已经水到渠成。护理英语则更有合理的需求：护理人员需要了解与人们健康密切相关的医护领域的最新发展，需要与外国同行在各种情况下进行交流，而在临床上与外籍病员沟通更是日常工作的一种需要。我们面临的问题是如何把护理英语教材编写得更具实用性，更有使用价值，更受师生的欢迎。

这套护理英语教材是一套系列教材。从初级到高级，共包括“涉外护理英语教程”和“涉外护理英语听说教程”各3册书。全套教材的构成脉络清楚，听说读写兼顾，内容由浅入深，题材相互呼应。初级程度与中学毕业生的一般英语能力相衔接，内容以一般卫生保健为主要话题，向基础医学内容过渡；中级语言难度有所提高，涉及护理必需的医学知识，专业内容逐渐铺开；高级与护理原版书接轨，突出护理实践。全书突出内容的实用性，兼顾学习英语所需要的系统性。课文既注意与生活、社会密切结合的人文性，又注意医学和护理内容的完整性。学完本教材的学生能全面掌握护理英语所需要的基本词汇、语法等知识，具备听说阅读方面比较扎实的基本功，为用英语进一步提高专业和工作能力打下坚实的基础。

参与编写本书的教师诚挚地希望得到本书使用者的反馈，指出其中的问题，提出改进意见，以便护理英语的教学有真正意义上的长进。让我们共同期待。

华仲乐

2016年3月

前　言

《涉外护理英语教程》分为初级、中级、高级共三册，供三年制高职高专护理专业英语教学使用，也可供广大英语爱好者和医护人员作为学习英语的辅助读物使用。

《涉外护理英语教程》编写目的是为经过高中英语学习且具备一定英语基础的学生，继续强化英语知识和技能的获取，强调基础知识、阅读能力和听说能力的有机结合，使学生熟练掌握公共英语、护理专业英语以及涉外护理知识，为高素质国际型护理人才奠定语言基础。

本书的编写具有以下几个特点：

1. 综合教程以阅读为主。本册共有12个单元，每单元有3篇课文，由预热课文、主课文和副课文组成，紧紧围绕同一个话题展开相关内容。
2. 课文内容选取与医学有直接和间接相关的故事、基本知识和有教益性的论述，使学生在学习英语知识的同时，了解国外的文化背景，了解基本的医学知识，增强跨文化交际技能，着重提高学生的职业技能和综合素养。
3. 课文难度逐步增加，由简约化的文字逐步向原版文字材料发展。但考虑到学生现有的英语程度，教程中的原版文字材料有一定的节略和简化。

本书编写体例如下：

1. 每单元第一篇为预热课文，文后的理解性问题供学生以个人或小组讨论形式进行思考回答；第二篇为主课文，配有阅读理解等多种练习；第三篇为阅读扩展部分，可供学生课后自主学习。
2. 主课文注释除介绍背景知识外，还针对课文中语言难点和难句给予释义，以帮助学生顺利阅读。
3. 课文后的练习，强调模仿和操练，使学生在熟悉和掌握课文内容的基础上能从容应对。所设计的练习形式灵活多样，包括课文理解、词汇学习、语法结构、英汉互译、段落写作等。
4. 每单元均有动词词组介绍，让学生学习掌握英语中常用动词的使用方法；每单元的构词法介绍旨在帮助学生了解英语词汇的构筑及其关联，进而有效地扩展词汇。
5. 书后附有总词汇表，供学生查找和记忆所用。

教学建议

《涉外护理英语教程》提供三个级别的教学资源，教师可根据本校教学条件以及学生英语水平选择相应级别教材，进行分类指导。同时还可参考教师用书中的内容以及网络学习资源，合理安排课堂授课和学生课下自主学习的内容。

《涉外护理英语教程》的总主编为上海交通大学医学院华仲乐教授。《涉外护理英语初级教程》由江苏护理职业学院徐平担任主编，南通卫生高等职业技术学院陈凤凤担任副主编，参编还有江苏护理职业学院的王娟、李立胜、朱婧和陈婷；《涉外护理英语中级教程》由上海交通大学外国语学院朱琦担任主编，上海交通大学医学院吴雪蕾和王彩凤担任副主编，上海交通大学医学院王晓洁参加了编写工作；《涉外护理英语高级教程》由首都医科大学卢凤香担任主编，首都医科大学黄一瑜和谢春晖担任副主编，参加编写工作的还有首都医科大学的苏萍、杨波、高明悦和陶鑫。

《涉外护理英语教程》诞生于“十三五”规划开局之年，是当前医学教育改革发展的必然产物，将为我国高职高专护理专业人才培养以及高职高专护理专业英语教学注入新的活力。在教材使用过程中，我们希望得到使用本教材的师生和各界人士的反馈意见与建议，以便我们不断完善教材，在高职高专护理专业人才 培养过程中发挥更大的作用。

编　者

2016年3月

Contents

Unit One

Coming To The Correct Diagnosis

Warming-up

Do you consider yourself a good patient who explains things clearly to the doctor and never wastes his or her time? Or do you think you should offer the doctor as much information about yourself as possible? Here, a doctor tells of his opinion as to what he expects of his patient when there is an interview.

What to Tell the Doctor

Do you get tongue-tied at the doctor's? Do you dry up when you enter the consulting room? What do you say when you sit down by the doctor's desk?

Over the years, I've opted for a greeting such as, "Good morning, Mr. Smith. What can I do for you?" Even this goes wrong sometimes, but at least it leads to fewer hiccups getting the consultative ball going backwards and forwards, from patient to doctor.

Many times, just as I think I've successfully sorted out their problems, my patient produces another one, like a magician bringing rabbits out of a hat, but these are different animals each time! At the rate medical matters can be solved, only a couple of them can be discussed before the consultation runs out of time; and I'm conscious that there are others waiting their turn. Dilemma. What to do now?

If I curtail the consultation abruptly, my patient will feel that they have had a raw

deal, and that the doctor doesn't care, or isn't interested.

So, be honest with your doctor. Tell him you've got more than one worry, and ask if he can deal with them at that time. If not, offer to come back again when he has more time, and could give you a double appointment. That's how I often get over this consultation hurdle — by sizing up the problems presented, tackling the most important, and then suggesting that the others can be dealt with in depth later.

Time also needs to be set aside to find out whether the advice has been understood. It has been calculated that a patient only remembers a third of what has been said in the surgery. If you don't understand something, say so rather than get the wrong end of the stick, and start worrying over nothing.

Lastly, there is the door-knob situation. The patient talks about a seemingly minor problem. The doctor deals with it, and the consultation ends. The patient reaches the door and turns, saying "Oh, by the way, doctor — I've got a discharge." This starts the consultation all over again.

Don't be shy. Get talking about what is worrying you most as soon as you've sat down. Try not to get embarrassed; doctors are trained to talk about delicate matters. Don't be afraid to voice your fears. After you've let them out, they won't seem half so bad, and you'll have got the best out of your chat in the surgery.

New Words and Expressions

tongue-tied /tʌŋ'taɪd/ *adj.* 结结巴巴的
gambit /'gæmbɪt/ *n.* 开场白
opt /ɒpt/ *vi.* 选择
hiccup /'hɪkʌp/ *n.* 打嗝
consultative /kən'sʌltətɪv/ *adj.* 咨询的
magician /mə'dʒɪʃən/ *n.* 魔术师
dilemma /dɪ'lemə/ *n.* 窘境
curtail /kɜ:'teɪl/ *v.* 剪短，减少
abruptly /ə'brʌptlɪ/ *adv.* 突然
hurdle /'hɜ:dl/ *n.* 阻碍，妨碍
door-knob /dɔ:nɒb/ *n.* 门把手
seemingly /'si:mɪŋlɪ/ *adv.* 表面上的
diacharge /dɪs'tʃa:dʒ/ *n.* 分泌物
voice /vɒɪs/ *v.* 表达，吐露
dry up 枯竭；语塞
bring forth 提出，展示
sort out 分类，解决
raw deal 不公平待遇
size up 估计 … 的大小（或多少）
get the wrong end of the stick [口]完全搞错了，完全误解了

Warming-up Activities

I. Choose the best answer according to the text.

1 After reading the text, we can infer that the author must be _____.
A. a patient B. a nurse C. a doctor D. a teacher

2 How can we best summarize the main idea of the second paragraph of the text?
A. "What is the matter with you?" is the most suitable starting question a doctor can ask.
B. "How are you?" seems to be a good way to start the consultation.
C. Doctors also face the problem of how to start the consultation properly.
D. Doctors can handle patients well enough to make them comfortable.

3 What's the author's dilemma mentioned in the fourth paragraph?
A. Patients' various questions cannot be answered fully because of the waiting patients.
B. The questions produced by the patient are too difficult to be answered by the doctor.
C. Patients always bring up various questions like magicians bringing rabbits out of their hats.
D. The doctor would rather do other things than answer meaningless questions.

4 To get rid of the dilemma, what does the doctor usually do?
A. He cuts short the consultation.
B. He tells the patients that he hasn't enough time to treat so many of them.
C. He asks other doctors for help.
D. He sorts out the major problems and tackles them, leaving behind the minor ones.

5 What should you do at the doctor's office if you are a patient according to the text?
A. Don't be shy to tell your doctor anything about your worries.
B. Talk about all your problems in as much detail as you can.
C. Speak calmly, and don't show your fears in your voice.
D. Do not embarrass the doctor by your private matters.

II. Learn the use of idiomatic expressions with the help of a dictionary.

Tongue

1. The doctor told him to ***put out his tongue***.
2. Did I say that? It must have been ***a slip of the tongue***.
3. I wanted to argue but I had to ***bite my tongue***.
4. Couldn't you ***keep a civil tongue in your head***?

Text A

Taking History

A detailed patient history and physical exam form the foundation of patient evaluation and vital patient data. No part of the patient evaluation is more essential to diagnosis than the patient history. It is widely accepted that the medical history contributes 60% to 80% of the information needed for accurate diagnoses. Thus to neglect the patient history denies the physician of a "vital" diagnostic tool.

The basic outline structure for the patient history usually includes the following:

1) Identification: patient name, age, gender, race, and occupation
2) Chief Complaint: (in the patient's words)
3) HPI: (history of present illness)
4) PMH: (past medical history)
5) Medications: should include current meds as well as medication allergies
6) ROS: review of systems
7) Social Hx.: includes family situation (married, divorced, single), habits; cigarettes, alcohol or illicit drug use, sexual behavior

Here are a few specific points about each section of the history outline:

1) Identification. This should include the patient's name, age, sex, race and occupation, for example: "Mr. Jones is a 55 yr. old Caucasian male who works as a farmer." The age,

race, sex and occupation are important as many diseases are not only gender and age dependent, but may also occur more commonly in specific ethnic and occupation groups.

2) Chief Complaint. This should be written in the patient's words. For example "chest pain" rather than "angina". Also the duration of the chief complaint should be noted "chest pain for 1 hour". Before moving on to the HPI, it would be appropriate to perform a "survey of problems" asking the patient if there are any other current problems bothering them.
3) HPI (History of Present Illness) — The history of the present illness is a more elaborate description of the patient's chief complaint and is the most important structural element of the medical history. This section should give the following details about the chief complaint (s):
   ① Detailed description of the "chief complaint"; "a dull crushing chest pain" including body location of the complaint.
   ② A chronological history and sequence of the chief complaint.
   ③ What circumstances brought it on: climbing stairs, emotional upset such as anger, or sexual intercourse.
   ④ What circumstances relieve it: resting for a few minutes.
4) ROS (Review of Systems) — This section is too often omitted. Although it is somewhat cumbersome to go through a "complete" review of systems and it may not be necessary to do so for "each" admission, at least one "complete" review of systems should be documented in the patient's medical record.
5) Social History — This section is often the most neglected section of the patient history. Vital information such as smoking history, use of alcohol or illicit drugs and sexual behavior can give invaluable clues to the diagnosis. Cigarette smoking, for example, is a risk factor for many kinds of diseases including cancer, coronary heart disease, COPD and GI diseases.

Although we've described a nice, neat "outline" for the patient history, when the medical student first begins to interview to take a history, he quickly discovers that fitting patient's responses into a "neat" history outline is indeed a challenge and requires much patience and practice! Patients have not been told their responses are to "fit" into a structured format! When asked a specific question by the interviewer, they may assume they should give as much information as possible, thus the interviewer is forced to "sift" through their response and retain only the pertinent data for the medical record.

In summary, the patient history is the most important aspect of patient evaluation as it guides the physician team's decisions concerning diagnostic work and formulation of a treatment plan. Further it can help to establish rapport where the patient not only learns to trust their physician but also is more likely to heed their advice.

New Words and Expressions

evaluation /ɪˌvæljʊ'eɪʃən/ *n.* 估价；[医]诊断
vital /'vaɪtəl/ *adj.* 至关重要的
neglect /nɪ'glekt/ *vt.* 忽视
illicit /ɪ'lɪsɪt/ *adj.* 非法的；不正当的
Caucasian /kɔ:'keɪzɪən/ *n.* 高加索人
adj. 高加索人的
angina /æn'dʒaɪnə/ *n.* 心绞痛
duration /djʊə'reɪʃən/ *n.* 持续时间
elaborate /ɪ'læbərət/ *adj.* 复杂的；精巧的
crush /krʌʃ/ *vt.* 压破，压碎
chronological /ˌkrɒnə'lɒdʒɪkəl/ *adj.* 按时间顺序排列的
cumbersome /'kʌmbəsəm/ *adj.* 累赘的，冗长的
coronary /'kɒrənərɪ/ *adj.* 冠状动脉的
format /'fɔ:mæt/ *n.* 格式，版式
sift /sɪft/ *vi.* 筛选
retain /rɪ'teɪn/ *vt.* 保持；雇；记住
pertinent /'pɜ:tɪnənt/ *adj.* 有关的
rapport /ræ'pɔ:t/ *n.* 友好关系；融洽
heed /hi:d/ *vt.* 注意，留心
COPD [医] [=chronic obstructive pulmonary disease] 慢性阻塞性肺病
GI diseases 胃肠道疾病，消化系统疾病

Notes To The Text

1. No part of the patient evaluation is more essential to diagnosis than the patient history.
就诊断而言，了解病史是患者评估中最为重要的环节。
本句为包含比较结构的完全否定句。
直译为：对于诊断而言，患者评估中没有哪一部分比病史更为重要的了。
完全否定句通常含有no, none, nobody, nothing, nowhere, neither, never 等否定词来表达绝对否定的含义。
Nobody knows. 谁也不知道。(没有任何一个人知道。)
No trickery can fool us. 任何骗人的东西都不能欺骗我们。

2. Vital information such as smoking history, use of alcohol or illicit drugs and sexual behavior can give invaluable clues to the diagnosis.
吸烟史、饮用酒精饮料或者吸食毒品以及不良性行为等重要信息可以给诊断提供重要线索。
本句中use of alcohol or illicit drugs为名词词组，逻辑上表达了某种动宾关系，即：饮用酒精饮料或者吸食毒品。

3. When asked a specific question by the interviewer, they may assume they should give as much information as possible, thus the interviewer is forced to "sift" through their response and retain only the pertinent data for the medical record.
每当病人被问到某一具体问题时，他们会以为应该尽可能多地提供信息，因此，询问者（这里指医生）不得不对他们的应对进行筛选，在病史记录中只保留相关信息。
本句中When asked a specific question by the interviewer为省略形式，其完整形式为：when they are asked a specific question by the interviewer，注意其被动含义。

Text Comprehension

I. Choose the best answers to the following questions.

1. Which part of the patient history may be written informally in oral language?
   A. Social Hx B. Chief Complaint C. HPI D. PMH
2. Which part of the medical history may contain a detailed description of the frequency and level of pain?
   A. Chief Complaint B. HPI C. PMH D. ROS
3. To medical workers, which part of the patient history may be paid little attention to?
   A. ROS and Social History B. HPI and ROS
   C. Chief Complaint and Social History D. Social History and HPI
4. Which one of the following statements about the "outline" of the patient history is CORRECT according to the author?
   A. Patients usually cooperate by fitting their information into the "outline".
   B. Guided by the "outline", medical workers seldom have difficulty in writing a patient history.
   C. In addition to the "outline", better understanding and selecting of information are also helpful in writing a medical history.
   D. The "outline" is useful but NOT essential to reaching a proper diagnosis.
5. Which of the following statements is NOT mentioned in the text?
   A. A patient history should be based on a certain structure.
   B. A patient history is important in the process of diagnosis.
   C. Patience and practice are necessary in writing a patient history.
   D. Patients should be told to organize their words according to the outline of the patient history.

Vocabulary

I. Fill in the blanks with the proper form of the words given.

accurate	**contribute**	**retain**	**pertinent**
elaborate	**neglect**	**sift**	**relieve**

1. The _____ diagnosis of bacterial endocarditis（心内膜炎） has long been based on a series of history, physical examination findings, and laboratory data.
2. He spent hours _____ through all the documents relating to the case.
3. Can you describe the circumstances which _____ the symptoms?
4. The symptoms and signs recorded in the patient's chart are highly _____ to the diagnosis.

5. In this hospital, we are trying to recruit and _____ skilled medical and nursing staff.
6. Before the operation, the surgical team made very _____ plans to ensure its success.
7. Caring for the elderly is one of the major service areas and we definitely cannot _____ it.
8. Basic research _____ enormously to our understanding of the disease.

II. Complete the following sentences by putting in the proper word in the right form.

evaluate **evaluation**

1. We need to carry out a careful _____ of the results from lab tests.
2. The performance of each employee _____ once a year.

depend **dependent**

3. It is easy to become _____ on sleeping pills.
4. The level of care a patient needs _____ on the several factors.

admit **admission**

5. After collapsing, she was rushed to the hospital, where she _____ .
6. Half of all _____ are emergencies, and these are treated straight away.

Grammar and Structure

I. Rewrite the sentences below by following the models given.

Model:

When *patients are asked* a specific question by the interviewer, they may assume they should give as much information as possible.
When *asked* a specific question by the interviewer, they may assume they should give as much information as possible.

1. When he was questioned repeatedly whether he had told the truth, he admitted that he had lied.

_____

2. When he was told the real reason for her change of heart, he had to accept the fact.

_____

Model:

This section is often the section of the patient history *that is most neglected*.
This section is often the *most neglected* section of the patient history.

3. No food contains all the nutrients that are needed.

_____

4. If the veins that are affected fail to respond to simple treatment, they may sometimes require surgical removal.

_____

II. Make the correct choice in the following text about Taking Histories.

The medical history of a patient is essential for the physician who is attempting ___1___ (analyze/analyzing/to analyze) the manifestations of a disease. The first items ___2___ (record/recorded/to be recorded) are the patient's name, race, age, birthplace, sex, marital status, occupation, and residence. The patient's age is an important factor because certain diseases, including some contagious diseases, congenital heart disease, and acute leukemia, ___3___ (find/found/are found) mainly in young people, while other diseases, including arteriosclerotic heart disease and degenerative diseases, ___4___ (is/are/to be) much more common in middle-aged and elderly people. The patient's occupation is also an important factor, especially if the patient's job ___5___ (exposes/exposed/exposing) him to certain substances.

The real medical history starts with a description of the reason for the patient's coming to the hospital for consultation. The physician ___6___ (need/needs/is needed) to know the exact circumstances of the appearance, extent, and duration of the symptoms. Further ___7___ (question/questioning/being questioned) develops details of the health of the patient's family, his habits and lifestyle, and his previous medical experiences. Finally, the physician ___8___ (asks/asking/to ask) a series of questions about each of the body systems such as the heart, lungs, and stomach. At the completion of a thorough medical history, the physician often has a good understanding of the nature of the patient's disorder, or at least he can begin to categorize illness.

Translation

I. Translate the following sentences into English.

1. 许多疾病不仅与性别和年龄相关，而且更常见于特定的社会群体。

_____

2. 当前病史是病史中最重要的构成成分。

3. 学会正确地采集病史需要有很大的耐心和大量的实践。

4. 病史为医生提供了很大一部分做出诊断所需要的信息。

Text B

Different Kinds of Diagnosis

Diagnosis is the art by which doctors determine which diseases are affecting their patients. The X-ray may be used to give a diagnosis of tuberculosis or fracture. A chemical analysis of the patient's urine is often taken to see if the patient has diabetes. Diagnosis is one of the most important branches of medicine.

There are many different types of diagnosis. A biological diagnosis is made by performing tests on animals with a sample of one of the patient's body fluids. A clinical diagnosis is made completely from symptoms. A differential diagnosis is one that compares symptoms of several diseases to see which one is most likely to be causing the trouble. One way of deciding what is wrong with a sick person is to decide what disease he does not have. The doctor compares the sick person's symptoms with the known symptoms of various diseases. All the diseases are eliminated until it is fairly certain that the patient could have only one disease. This is called diagnosis by exclusion. A laboratory diagnosis is made by studying the blood, urine, or other liquids of the body in a laboratory, as in the case of anemia and diabetes.

A physical diagnosis is made by looking at the patient for signs of disease apparent to the eye, such as rashes or broken bones, and examining the patient with the hands. Sometimes doctors will actually try to induce symptoms or make them worse, when they think a disease is present but cannot be sure because the symptoms are not definite enough. Another type of bacteriologic diagnosis involves the injection of sera and observing the change of appearance in the skin at the site of injection. For example, an injection of tuberculin is often given as a test for tuberculosis. The patient is susceptible to the disease if the injection makes him develop a local rash. A tentative diagnosis is sometimes made when the symptoms are not definite. The diagnosis is made, and the doctors give treatment for what they decide the disease to be, but they watch the patient closely for new symptoms.

New Words and Expressions

tuberculosis /tjʊˌbɜːkjʊˈləʊsɪs/ *n.* 肺结核
fracture /ˈfræktʃə/ *n.* 骨折
urine /ˈjʊərɪn/ *n.* 尿
diabetes /ˌdaɪəˈbiːtiːz/ *n.* 糖尿病
fluid /ˈfluːɪd/ *n.* 液体
eliminate /ɪˈlɪmɪneɪt/ *vt.* 排除
exclusion /ɪksˈkluːʒən/ *n.* 排除
anemia /əˈniːmɪə/ *n.* 贫血症
apparent /əˈpærənt/ *adj.* 可看见的
rash /ræʃ/ *n.* （皮）疹
bacteriologic /bækˌtɪərɪəˈlɒdʒɪk/ *adj.* 细菌的
sera /ˈsɪərə/ *n.* 浆液；血清
tuberculin /tjuːˈbɜːkjʊlɪn/ *n.* 结核菌素
susceptible /səˈseptəbl/ *adj.* 易受感染的
tentative /ˈtentətɪv/ *adj.* 试探性的；不确定的

Review and Practice

I. Choose the best answers to the following questions according to the text.

1. After comparing symptoms of several diseases, the doctor may reach a _____ .
   A. clinical diagnosis　　B. differential diagnosis
   C. tentative diagnosis　　D. final diagnosis
2. According to the text, the doctors may determine which diseases are affecting their patients based on _____ .
   A. chemical analysis of some samples from the patient
   B. signs and symptoms that appear in a patient
   C. the elimination of other possible diseases
   D. all of the above
3. In the third paragraph, the word "induce" is most likely to have the same meaning as _____ .
   A. discover　　B. cure　　C. ignore　　D. bring about
4. According to the text, which of the following statements is TRUE?
   A. A laboratory diagnosis has nothing to do with body fluids.
   B. Animal's body fluid sample is essential for biological diagnosis.
   C. A bacteriologic diagnosis is made based on the result of skin injection test.
   D. No diagnosis can be made if the doctor is not absolutely sure of what the problem is.
5. When a tentative diagnosis is made _____ .
   A. the doctor is fairly certain of the diagnosis
   B. the doctor cannot really start treating the patient
   C. the doctor needs to order many tests to confirm the diagnosis
   D. the doctor is ready to change the diagnosis based on new evidence

II. Decide whether each of the following statements is True (T) or False (F) according to the text.

1. A patient may be easily diagnosed with broken bones by X-ray.
2. A clinical diagnosis is mainly based on the patient's description of his disease.
3. Diagnosis by exclusion can be used to form a differential diagnosis.
4. Laboratory blood examination is an important aid in the diagnosis of anemia.
5. A physical diagnosis can be made by listening to the patient's complaints.

III. Translate the following sentences into Chinese.

1. A differential diagnosis is one that compares symptoms of several diseases to see which one is most likely to be causing the trouble.

2. A physical diagnosis is made by looking at the patient for signs of disease apparent to the eye, such as rashes or broken bones, and examining the patient with the hands.

3. Sometimes doctors will actually try to induce symptoms or make them worse, when they think a disease is present but cannot be sure because the symptoms are not definite enough.

4. The diagnosis is made, and the doctors give treatment for what they decide the disease to be, but they watch the patient closely for new symptoms.

Word Building

A large number of medical terms are made from a combination of word elements: roots, prefixes and suffixes. In the medical expression "GI diseases", GI refers to *gastrointestinal*, and *gastro-* is a root which means *stomach*. When gastro- is combined with other roots, all of which have definite meanings, we can easily see the meaning of a medical word related to stomach.

gastro- stomach　　gastritis (-itis inflammation)　　gastrolith (-lith stone)

Here are some useful roots referring the parts of the body and sample words in which these roots are used.

somato- body　　somatometry (-metry measuring)　　psychosomatic
cephalo- head　　cephalofacial　　cephaloscope (-scope instrument for seeing)
trachelo- neck　　trachelodynia (-dynia pain)　　trachelism (-ism abnormal condition)
thoraco- chest　　thoracocentesis (-centesis pucture)
thoracolumbar (lumbar- lower part of the back)
celio-/relia- abdomen
celialgia (-algia pain)　　celiotomy (-tomy cutting)

Unit Two

Doing The Right Things in Physical Examination

Warming-up

As nursing students, you will probably be very nervous when you are performing a procedure for the first time. But do you realize that the patient you are examining or performing a procedure on may be taking it for the first time, not expecting what may happen to him or her?

A Medical Student's Story: Examining an Old Lady

As a medical student, whenever I was learning to perform new procedures and tests, I always felt extremely nervous, even embarrassed. Interestingly, I noticed that some procedures and exams which for some patients are not at all traumatic can be very difficult and painful for other patients.

One night early in the summer the intern I was working with asked me to assist her in doing a pelvic exam. The patient was a woman who had come to the hospital because she was feeling a little weak, and who had been discovered to have cancer in several places, cancer which looked metastatic. The problem then was to locate the primary site of her cancer, and the pelvic exam was the first in a series of attempts. The intern, a woman a year or so older than I, actually performed the pelvic; all I did was to hold a flashlight — and the patient's hand. She was a woman in her

seventies with a sweet face and a gentle smile. Because we had no examining table with stirrups, we propped her up in bed on a bedpan for the exam.

"You probably had one of these exams when you had children," said the intern.

"Oh, no," said the patient, smiling at us, "Why, I've never even been married."

"Oh, okay," said the intern. "Well, I want you to know that Perri and I have both had this done to us, and nobody really likes having it done, but we'll be as quick as we can."

And so we did the pelvis, with the poor lady crying out in pain and surprise, because this was something she was not expecting, was not prepared for. In a certain sense this exam, so routine for most women, was a just a beginning for this woman who might have to take many invasive tests later on, tests that she was not expecting. Our white-coated authority offered her no comfort; wanting to help her, we had to offer words of sympathy, reminding her that we had been patients too, that all three of us had a common anatomy.

And in the end, I learned the lesson: as I became a little more experienced, a little more sure of myself, I became less anxious. Not long ago, I would say cheerfully, "You'll just feel a little stick," trying desperately to find the vein. By now, reasonably sure that I can find the vein, I am much less afraid to let the patient see if I am puzzled or unsure. "This will hurt a little, but I'll do it as quickly as I can," I say.

New Words and Expressions

embarrassed /ɪm'bærəsd/ *adj.* 尴尬的，窘迫的
traumatic /trɔ:'mætɪk/ *adj.* 损伤的，创伤的
intern /ɪn'tɜ:n/ *n.* 住院实习医生
pelvic /'pelvɪk/ *adj.* 骨盆的
metastatic /metə'stætɪk/ *adj.* 转移性的，由转移所致的
prop /prɒp/ *vt.* 支撑
bedpan /'bedpæn/ *n.* （病人在床上用的）便盆
invasive /ɪn'veɪsɪv/ *adj.* 侵害的，侵入性的

Warming-up Activities

I. Choose the best answer according to the text.

1 The author suggests in the first paragraph that _____ .

A. doing something for the first time is always embarrassing
B. medical students have a hard time learning new skills
C. many procedures and tests involve trauma and pain

D. patients do not feel the same when receiving the same procedure

2 Which of the following can you infer from the description in the second paragraph?
A. The old woman was trying hard to cooperate.
B. The intern was very experienced and the author was not.
C. The author was there to assist with the examination.
D. Holding the flashlight was an important part of the exam.

3 Why did the intern say both she and Perri had the same procedure done to them?
A. Because she wanted her patient to know the procedure was painless.
B. Because she wanted somehow to remove fear from the woman's mind.
C. Because she was unsure how the woman would react to the procedure.
D. Because she wanted to assure the woman of her competence.

4 What does the author say about the procedure the old woman received?
A. The woman put up with the pain and discomfort very well.
B. It would be followed by many other painful procedures.
C. Other procedures would not be as difficult as this one.
D. The doctors' white coats somehow made it less uncomfortable.

5 Which of the following is NOT an act of showing sympathy?
A. Telling the woman the exam did not cause pain or discomfort.
B. Reminding her that doctors too had the same experiences.
C. Telling the woman that the examiners too were women.
D. Letting her know other people also received such examination.

6 What is the lesson the author learned as she became more experienced?
A. Patients in experienced hands feel far less anxiety.
B. Pain and discomfort are inevitable, so you needn't feel apologetic.
C. There is no need to try to hide your anxiety when you are nervous.
D. You may gradually become more confident as you gain more experience.

II. Learn the use of idiomatic expressions with the help of a dictionary.

Skin

1. A lot of these fashion models are ***all skin and bones***.
2. Ignore Justin: don't let him ***get under your skin***.
3. You've got to ***have a thick skin*** to survive this job.
4. Let them cancel the whole project. ***It's no skin off my nose***.

Text A

Physical Examination

Physical examination is the means by which a physician determines a patient's state of health. This is done by performing the examination itself and doing certain laboratory tests. The examination may be a routine check-up or may have been scheduled as a result of a specific complaint, or symptom, reported by the patient.

The examination itself starts with an overall evaluation of the patient. Is he conscious? Is he able to walk? Is he alert, or is he unable to communicate?

The head is examined by looking at the ear canals and the eardrums by means of an otoscope, the nose and throat are checked with a flashlight, and the eyes are inspected. It is important to know if the eyes move equally, if they react to light directed into the pupils, if the whites are free from redness, and if vision is normal. Vision is tested with an eye chart. The examiner uses an ophthalmoscope to peer into the eye itself and to see the lining of the back of the eye.

The neck is examined for swellings, stiffness, or rashes. Motion of the head is also checked.

The heart and lungs are examined. First, this area is inspected for any unusual swellings, discolorations, or movements. Next the chest is palpated — that is, felt by the examiner's hands. Differences in skin temperature and chest movements are noted. The position and the size of the heart can be determined in this way. Thirdly, the chest is percussed. The examiner places his left hand firmly on the chest and with the middle finger of his right hand sharply thumps the left hand. By noting changes

in the note or sound thus produced, the examiner determines what lies inside the chest wall. Finally, the physician, using his stethoscope, listens to the sound produced by the movement of air in and out of the lungs and by the beating of the heart. The blood pressure is taken by using a blood pressure cuff on the upper arm.

The abdomen is also inspected for swellings, scars, rashes, marks, or injuries. By palpation the physician can look for areas of pain or swellings. By percussion, he can determine the presence of solid organs or tumors. By auscultation (or listening with the stethoscope), he can hear bowel sounds. The rectum and lower colon can be seen by a lighted tube inserted into the rectum.

For women, an examination of the breasts and pelvis is important to detect tumors or other abnormalities. An examination of the rectum may detect problems before symptoms develop.

The examiner then turns to the extremities. He checks the ability of the joints to move properly, feels the pulses in various locations on both the upper and lower limbs, and looks for fluid under the skin, especially about the ankles.

The laboratory contributes a great deal to the study of the patient. By examining specimens of blood, urine, and other body fluids, the physician, can learn a great deal. Physicians often employ the X-ray to see the structure of underlying organs.

For women a Papanicolaou, or "Pap" smear test is done to detect early signs of cancer of the cervix. This is a painless scraping of the surface of the cervix. The scrapings are stained and examined under the microscope to assess the health of the cells obtained.

A variety of electrically powered instruments is available, including the electrocardiogram and the electroencephalogram. The first is a specially designed voltmeter that makes a tracing of the electrical impulses produced with each heartbeat. Changes in the rhythm or in the heart muscle itself can be detected. The electroencephalogram puts on paper the electrical impulses made by brain activity.

By following these steps the physician can arrive at a diagnosis, the most important part of his task. With the diagnosis he can then begin treatments.

New Words and Expressions

otoscope /'əʊtəskəʊp/ *n.* 检耳镜
pupil /'pju:pl/ *n.* 瞳孔
ophthalmoscope /ɒf 'θælməskəʊp/ *n.* 检眼镜
discoloration /dɪsˌkʌlə'reɪʃən/ *n.* 变色，褪色
palpate /'pælpeɪt/ *vt.* 触诊
percusse /pə:'kʌs/ *vt.* 叩诊
thump /θʌmp/ *vt. & vi.* 重击；（心脏等）扑扑地跳
stethoscope /'steθəskəʊp/ *n.* 听诊器
cuff /'kʌf/ *n.* 护腕
abdomen /'æbdəmən/ *n.* 腹部
auscultation /ˌɔ:skəl'teɪʃən/ *n.* 听诊
smear /smɪə/ *n.*（显微镜的）涂片
cervix /sə:vɪks/ *n.* 子宫颈；颈部
electrocardiogram /ɪlektrəʊ'kɑ:dɪəʊgræm/ *n.* 心电图，心电图仪器
electroencephalogram /ɪˌlektrəʊɪn'sefələgræm/ *n.* 脑电波，脑动电流图
voltmeter /'vəʊltˌmi:tə(r)/ *n.* 伏特计

Notes To The Text

1. It is important to know if the eyes move equally, if they react to light directed into the pupils, if the whites are free from redness, and if vision is normal.
双眼是否同步旋转，是否对射入瞳孔的光线做出反应，巩膜（即眼白部分）有没有血丝，视力是否正常，了解这些信息很重要。
句中directed into the pupils为过去分词短语，相当于which are directed into the pupils。

2. Next the chest is palpated — that is, felt by the examiner's hands. Differences in skin temperature and chest movements are noted.
接下来胸部触诊，即检查者用双手触摸。感知体温与胸部运动是否有异常。
本句中，破折号后续部分起到解释作用。

Text Comprehension

I. Choose the best answers to the following questions.

1. Which of the following is NOT mentioned in this text as a part of physical examination?
A. CT scanning.　　B. Certain laboratory tests.
C. Overall examination.　　D. Taking medical history.
2. An overall evaluation of the patient includes all of the following EXCEPT _____ .
A. whether the patient is conscious or unconscious
B. whether the patient has suffered certain illnesses in the past
C. whether or not the patient can walk steadily by himself
D. whether the patient can respond to questions sensibly
3. Which of the following statements is CORRECT about the examination itself?
A. It starts from extremities and ends with the most complex part, the head.
B. Some instruments are used to aid in the examination.
C. Laboratory tests are not part of the physical examination.
D. There is little difference between men and women in the examination they receive.
4. When examining the heart and lungs, the doctor _____ .
A. uses different methods following a proper order
B. depends far more on instruments than on other skills
C. mainly uses his hands to touch and feel
D. asks more questions while looking for signs of changes
5. In terms of examining the abdomen, it is suggested that _____ .
A. some methods used in examining the heart and lungs are employed
B. attention should be paid to many things, including pain and swellings

C. special instruments are needed for detecting the presence of tumors
D. examining the abdomen seldom includes the rectum and lower colon

II. Give brief answers to the following questions.

1. When a woman receives an examination, what special tests or procedures are done? For what purpose?

_____

2. What kinds of samples from a client are usually sent to the laboratory for testing?

_____

3. What are the electrocardiogram and the electroencephalogram used for?

_____

Vocabulary

I. Fill in the blanks with the proper form of the words given.

detect	**assess**	**employ**	**underlying**
check	**note**	**palpate**	**routine**

1. Blood testing has become a standard part of a _____ physical examination.
2. The physician sometimes might _____ the patient's abdomen to look for areas of pain or swellings.
3. Hospitals _____ the clients' growing demand for quicker services.
4. A sportsman's urine is _____ to see if he or she has taken drugs.
5. Low back pain may be a symptom of serious _____ diseases such as cancer or bone infections.
6. Yoga and meditation might be _____ to help borderline hypertensive reach normal pressure level.
7. The use of genetic screening in _____ individual health risk will continue to increase.
8. Ultrasound is widely used to _____ many developmental defects including malformed limbs.

II. Match the terms on the left column with their meanings on the right column.

1. inspection	**A.** an instrument used to listen for sounds produced in the body
2. palpation	**B.** an instrument for examining interior of the eye
3. percussion	**C.** changing in color that shows abnormality
4. auscultation	**D.** an instrument used for examining the ear
5. discoloration	**E.** use of the fingertips to tap lightly but sharply

6. otoscope	**F.** listening for sounds within the body
7. ophthalmoscope	**G.** examining by applying hands or fingers
8. stethoscope	**H.** visual examination of the exterior surface

Grammar and Structure

I. In the following three sentences, the preposition *by* is used to show how something is done. There are many examples of this usage in the text. Find these examples.

Physical examination is the means *by* which a physician determines a patient's state of health. This is done *by* performing the examination itself and doing certain laboratory tests. *By* palpation, the physician can look for areas of pain or swellings.

More examples:

1. _____
2. _____
3. _____
4. _____

II. In the following two sentences, an *infinitive* is used adverbially to show purpose. Complete the sentences below by supplying an infinitive phrase that fits into the context.

Models:

1. The examiner uses an ophthalmoscope *to peer into the eye itself* and *to see the lining of the back of the eye*.
2. For women, an examination of the breasts and pelvis is important *to detect tumors or other abnormalities*.

A. to avoid chilling
B. to see that it functions properly
C. to assess the health of the cells obtained
D. to see the structure of underlying organs
E. to make a tracing of the electrical impulses produced with each heartbeat

1. Physicians often employ the X-ray _____ .

2. The scrapings are stained and examined under the microscope _____ .
3. The electrocardiograph is specially designed _____ .
4. All equipment must be checked _____ .
5. When the examination is being performed, room temperature should be controlled _____ .

Translation

I. Translate the following sentences into English.

1. 诊断疼痛原因需要了解病史、家族史，甚至进行全面的神经功能评估。

2. 体检过程中，医生可以研究你的身体状况，以确定是否有健康问题。

3. 护士应该采取措施避免体检受到噪声干扰。

4. 对于女性来说，检查胸部和骨盆很重要，可以发现肿瘤或其他异常情况。

Text B

Preparation of Examination

No portion of a physical examination should be conducted haphazardly. Poor preparation can easily result in incomplete or inaccurate findings. The environment must be suitable for the examination, and all the needed equipment must be available. The client should be physically and psychologically prepared so that the nurse can conduct the examination smoothly with little interruption.

Preparation of environment

The physical examination is performed in privacy. An examination room that is well equipped for all necessary procedures is preferable. However, often the examination occurs in the client's room where it may be necessary to use room dividers. Adequate lighting is needed for proper illumination of body parts. Ideally an examination room is soundproofed. The nurse should eliminate any sources of extraneous noise and take precautions to prevent interruptions from other health care personnel during the examination.

Examination tables are relatively high and narrow. The client should be carefully assisted to

avoid falling while getting on and off the table. A confused, combative, or uncooperative client should not be left on the table without supervision. When examining a client in bed, the nurse can raise the bed to reach the client's body parts more easily.

Preparation of Equipment

The client does not want the examination to be prolonged unnecessarily, so the nurse has all the equipment ready and available before the examination begins. The equipment includes blood pressure cuff, cotton applicators, disposable pads, drapes, eye chart, flashlight, forms, gown, Pap smear slides, paper towels, percussion hammer, scale, thermometer, tuning fork, and wristwatch with second hand. If possible, the equipment to be used, as well as the examiner's hands, should be kept warm. All equipment must be checked to see that it functions properly.

Physical Preparation of Client

The client's physical comfort is vital to the success of the examination. Before starting, the examiner should ask the client if he needs to use the toilet. An empty bladder and bowel facilitate examination of the abdomen, genitalia, and rectum. This is a good time to collect any needed urine or fecal specimens. The examiner should explain to the client the proper method for collecting specimens and be sure each specimen is properly labeled.

Physical preparation involves being sure the client is dressed properly. The client should be given privacy during undressing and plenty of time to finish. Once the client has undressed and donned the gown, he should sit or lie down on the examination table with the drape over the lap or lower trunk. The examiner should make sure the client stays warm by eliminating drafts, controlling room temperature, and providing warm blankets. Seriously ill and elderly clients are more susceptible to chilling. The examiner should ascertain that the client is comfortable.

Psychological Preparation of Client

Of considerable importance is the reduction of any anxiety or embarrassment the client may have about the examination or about answering personal questions. Many clients are fearful about what an examination might reveal. The nurse explains in simple terms what is going to happen with each step of the examination and how the client can best cooperate. The client should be encouraged to voice any discomfort or ask questions. If the client seems overly anxious or fearful, the nurse may need to postpone the examination. When the client and examiner are of opposite sexes, it is helpful to have a third person of the client's sex present in the room. This assures the client that the examiner will behave ethically, and the third person acts as a witness to the examiner's and client's conduct.

Positioning

During the examination the nurse assists the client to assume proper positions so that body parts are easily accessible and the client remains comfortable. The client's ability to assume a position will depend on physical strength and degree of wellness. Some positions, such as the lithotomy and knee-chest, are embarrassing and uncomfortable. It is therefore important to keep the client in those positions no longer than necessary. The nurse explains the position to be assumed and assists the client to the proper position. The drapes should be adjusted to be sure that the area to be examined is accessible and that no body part is unnecessarily exposed.

New Words and Expressions

bladder /'blædə/ *n.* 膀胱
genitalia /ˌdʒenɪ'teɪlɪə/ *n.* 生殖器（尤指外阴部）
fecal /'fi:kəl/ *adj.* 排泄物的，粪便的
don /dɒn/ *vt.* 穿上，披上
drape /dreɪp/ *n.* 披风；覆盖物
ascertain /ˌæsə'teɪn/ *vt.* 确定，查明
lithotomy /lɪ'θɒtəmɪ/ *n.* 仰卧曲膝位
accessible /ək'sesəbl/ *adj.* 易接近的
room divider （房间分割）屏风

Review and Practice

I. Give brief answers to the questions by summing up the main points.

Example: What are the major requirements in the preparation of environment?
privacy should be considered; well-equipped for necessary procedures; adequate lighting; free from outside noise or unnecessary interruption ...

1. What are the main points the nurse should remember when preparing the equipment?

2. What can the nurse do to make the client comfortable with the examination?

3. How can the nurse reduce the client's anxiety or embarrassment?

4. Why is the position a client assumes important?

II. Decide whether each of the following statements is True (T) or False (F) according to the text.

1. The physical examination often occurs in the patient's room because the patient is more familiar with it.
2. A confused, combative, or uncooperative client should be advised to give up the examination.
3. A good time to collect any needed urine or fecal specimens is before the start of an examination.
4. The reduction of anxiety or embarrassment the client may have about the examination or about answering personal questions is of considerable importance.
5. When the client and the examiner are of opposite sexes, it is helpful to have a third person of the examiner's sex present.

III. Translate the following sentences into Chinese.

1. The client should be physically and psychologically prepared so that the nurse can conduct the examination smoothly with little interruption.

2. The nurse should eliminate any sources of extraneous noise and take precautions to prevent interruptions from other health care personnel during the examination.

3. The nurse explains in simple terms what is going to happen with each step of the examination and how the client can best cooperate.

4. The drapes should be adjusted to be sure that the area to be examined is accessible and that no body part is unnecessarily exposed.

Word Building

In physical examination, some instruments are commonly used, such as thermo*meter*, stetho*scope*, and some tests such as radio*graphy* are performed.

Here are the word elements referring to instruments and tests.

-scope	instrument for seeing	-scopy	testing by using such instruments
-meter	a measuring tool	-metry	measuring
-graph	instrument used in recording data	-graphy	recording

Guess the meaning of the following medical terms.

gastroscope
endoscopy (endo- inside)
leukocytometer
osteometry (osteo- bone)
cardiograph (cardio- heart)
angiography (angio- blood vessel)
esophagoscope
thoracoscopy
chromatometer (chromato- color)
hematometry
encephalograph (encephalo- brain)
pneumonography (pneumono- lung)

Unit Three

Blood: Liquid And Solids

Warming-up

All of us know something about blood transfusion. The person who receives blood in a transfusion is called the recipient. The person who gives it is the donor. The blood is usually drawn from, or introduced into, a vein located at the inside of the elbow. But there are really more important things to learn. For example, transfusions may be dangerous.

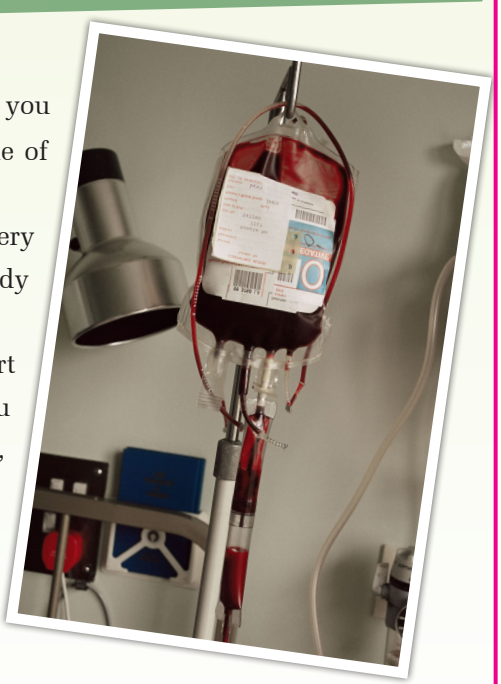
What is Blood Transfusion?

A blood transfusion is a safe, common procedure in which you receive blood through an intravenous (IV) line inserted into one of your blood vessels.

Blood transfusions are used to replace blood lost during surgery or a serious injury. A transfusion also might be done if your body can't make blood properly because of an illness.

During a blood transfusion, a small needle is used to insert an IV line into one of your blood vessels. Through this line, you receive healthy blood. The procedure usually takes 1 to 4 hours, depending on how much blood you need.

Blood transfusions are very common. Each year, almost 5 million Americans need a blood transfusion. Most blood transfusions go well. Mild complications can occur. Very rarely,



serious problems develop.

Blood Types

Every person has one of the following blood types: A, B, AB, or O. Also, every person's blood is either Rh-positive or Rh-negative. So, if you have type A blood, it's either A positive or A negative.

The blood used in a transfusion must work with your blood type. If it doesn't, antibodies (proteins) in your blood attack the new blood and make you sick.

Blood Banks

Blood banks collect, test, and store blood. They carefully screen all donated blood for infectious agents (such as viruses) or other factors that could make you sick.

Blood banks also screen each blood donation to find out whether it is type A, B, AB, or O and whether it's Rh-positive or Rh-negative. You can get very sick if you receive a blood type that doesn't work with your own blood type. Thus, blood banks carefully test donated blood.

To prepare blood for a transfusion, some blood banks remove white blood cells. This process is called white cell or leukocyte reduction. Although rare, some people are allergic to white blood cells in donated blood. Removing these cells makes allergic reactions less likely.

Not all transfusions use blood donated from a stranger. If you're going to have surgery, you may need a blood transfusion because of blood loss during the operation. If it's surgery that you're able to schedule months in advance, your doctor may ask whether you would like to use your own blood, rather than donated blood.

If you choose to use your own blood, you will need to have blood drawn one or more times prior to the surgery. A blood bank will store your blood for your use.

New Words and Expressions

transfusion /træns'fju:ʒən/ *n.* 输血
donor /'dəʊnə/ *n.* 捐血者，供血者
elbow /'elbəʊ/ *n.* 肘部
intravenous /ˌɪntrə'vi:nəs/ *adj.* 进入静脉的，静脉注射的
complication /ˌkɒmplɪ'keɪʃən/ *n.* 并发症
leukocyte /'lju:kəsaɪt/ *n.* 白细胞
blood bank 血库
prior to 在…之前

Warming-up Activities

I. Choose the best answer according to the text.

1 A blood transfusion may be dangerous when _____ .
A. the recipient receives blood of a type different from his
B. the recipient receives blood contaminated with infectious agents
C. the recipient is allergic to leukocytes
D. All of the above

2 According to the text, which of the following statements is NOT true?
A. The donor gets his blood drawn through an intravenous line.
B. A person may need blood transfusion if the body fails to its own blood.
C. Blood transfusion is an ordinary procedure and complications seldom occur.
D. Blood banks are responsible for providing safe blood for transfusion.

3 According to the text, which of the following statements is TRUE?
A. Basically, there are six blood types.
B. Allergic reactions might occur if leukocytes are not removed.
C. Blood type is closely related to the white cell or leukocyte.
D. Allergic reactions may be prevented by removing the Rh factors in the blood.

4 Under which of the following conditions is it possible to receive one's own blood for transfusion?
A. Huge loss of blood.
B. Accidental serious injury.
C. Scheduled surgery.
D. Emergency operation.

5 Who makes the decision on whether or not one's own blood is used for transfusion?
A. The surgeon who performs the operation.
B. The blood bank that stores and screens blood.
C. The person who will receive a planned operation requiring transfusion.
D. The family members who are legally responsible for the care of the patient.

II. Learn the use of idiomatic expressions with the help of a dictionary.

Blood

1. Both her mother and grandmother are musicians so music ***is/runs in her blood***.
2. What we should do is to ***have fresh blood*** with new ideas.
3. The way these people treated their parents ***made my blood boil***.
4. The two brothers finally made up; ***blood is thicker than water***.

Text A

Blood and Its Constituents

Blood is the fluid that circulated in the arteries, veins, and capillaries. It is essential to life and plays a role in every major body activity.

Although blood appears to be a simple liquid, it is actually a body tissue. The cells, instead of being joined together as in solid body tissue, are suspended in a fluid. This fluid portion of the blood is called the plasma, and it makes up about 55% of the blood. The cellular portion, the so-called formed elements or corpuscles, consists chiefly of red blood cells, with smaller numbers of white blood cells and platelets.

Blood Plasma

Plasma itself is approximately 90% water. The remaining part of plasma contains around 100 different substances dissolved or suspended in this water. The plasma content varies somewhat, since the blood carries substances to and from organs which use some of this material and add others. However, in the case of many substances there is a tendency to maintain a certain constant level. Glucose, for example, is kept at an average of about one-tenth of one percent solution. This is possible partly because glucose is stored in certain cells, especially those of the liver and muscles, and is later released as it is used by the tissues to generate energy.

After water, the next largest percentage of which the plasma is composed is protein. Proteins in the plasma include the amino acids, such vital compounds as antibodies that combat infection, and certain proteins that figure in blood clotting. Other important ingredients of plasma are

carbohydrates, lipids, and many kinds of mineral salts.

Erythrocytes

Erythrocytes, the red blood cells, are tiny disk-shaped bodies with a central area that is thinner than the edges. They are different from other cells in that the mature form found in the circulating blood does not have a nucleus. These cells live a much shorter time than most other cells of the body, some of which last a lifetime. One purpose of red blood cells is to carry oxygen from the lungs to the tissues. This is accomplished through the main ingredient of the red blood cells, which is called hemoglobin. It is the hemoglobin that absorbs this gas and gives the blood its characteristic red color. The more oxygen that is carried by the hemoglobin, the brighter the red color of the blood. Therefore, the blood that goes from the lungs, through the arteries, to the tissues is bright red because it carries a brand-new supply of oxygen. On the other hand, the blood that returns from the tissues, via the veins, and back to the lungs is a much darker red, since it has given up much of its oxygen. The red blood cells also carry the carbon dioxide from the tissues back to the lungs for expiration.

The erythrocytes are by far the most numerous of the corpuscles, averaging from 4.5 to 5 million per cubic millimeter of blood.

Leukocytes

The leukocytes, or white blood cells, are very different from the erythrocytes in appearance, quality and function. They contain nuclei of varying shapes and sizes, and the cell itself is shaped like a ball. Leukocytes are outnumbered by erythrocytes by 700 to 1. Whereas the erythrocytes have a definite color, the leukocytes tend to be colorless. The white blood cells have many different divisions, but for the moment it is sufficient to know that the most important function of leukocytes is to destroy certain pathogens. At any time that pathogens enter the tissues, as through a wound, the leukocytes are attracted to that area. They leave the blood vessels through their walls into the area of infection. There they engulf so many of pathogens that very often they themselves die and disintegrate. A collection of dead and living bacteria, together with dead as well as living leukocytes, forms pus; and a collection of pus localized in one area is known as an abscess.

Platelets

If it were not for the platelets, or thrombocytes, we would not last very long because the slightest cut would prove fatal; we would bleed to death. The platelets, then, are essential to blood clotting, or coagulation. They measure 250,000 to 300,000 per cubic millimeter. Platelets are not believed to be cells in themselves, but are probably fragments of cells. When blood is shed, or else comes in contact with any tissue other than that which normally carries blood, the platelets immediately disintegrate and release a chemical which reacts with a protein called fibrinogen which is manufactured in the liver and circulates in the plasma. The fibrinogen changes from a liquid to a solid mass called fibrin, which forms the clot.

New Words and Expressions

capillary /kə'pɪlərɪ/ *n.* 毛细血管
plasma /'plæzmə/ *n.* 血浆
cellular /'seljʊlə/ *adj.* 细胞的
corpuscle /'kɔ:pʌs(ə)l/ *n.* 细胞，血球
platelet /'pleɪtlɪt/ *n.* 血小板
glucose /'glu:kəʊs/ *n.* 葡萄糖
generate /'dʒenəˌreɪt/ *v.* 产生
clot /klɒt/ *vt. & vi.* 凝结 *n.* 凝块
carbohydrate /'kɑ:bəʊ'haɪdreɪt/ *n.* 碳水化合物
lipid /'lɪpɪd, 'laɪpɪd/ *n.* 脂质
erythrocyte /ɪ'rɪθrəʊsaɪt/ *n.* 红细胞；红血球
nucleus /'nju:klɪəs/ *n.* 细胞核（复数为nuclei）
hemoglobin /ˌhi:məʊ'gləʊbɪn/ *n.* 血红素，血红蛋白
expiration /ˌekspaɪə'reɪʃən/ *n.* 呼气
cubic /'kju:bɪk/ *adj.* 立方体的
outnumber /aʊt'nʌmbə/ *vt.* 数量多于
pathogen /'pæθədʒ(ə)n/ *n.* 病菌，病原体
engulf /ɪn'gʌlf/ *vt.* 吞没；吞食
disintegrate /dɪs'ɪntɪgreɪt/ *vt.* 分解
pus /pʌs/ *n.* 脓，脓水
abscess /'æbsɪs/ *n.* 脓肿
thrombocyte /'θrɒmbəˌsaɪt/ *n.* 血小板
coagulation /kəʊˌægjʊ'leɪʃən/ *n.* 凝结，凝结物
fibrinogen /faɪ'brɪnədʒən/ *n.* 纤维蛋白原
fibrin /'faɪbrɪn/ *n.* （血）纤维蛋白
amino acid 氨基酸
combat infection 抗感染

Notes To The Text

1. The cells, instead of being joined together as in solid body tissue, are suspended in a fluid.
（血液中的）细胞不像身体固态组织中的细胞那样结合在一起，而是悬浮在液体之中。
句子主语the cells与谓语部分are suspended in a fluid之间插入了介词短语instead of being joined together as in solid body tissue，这种结构称为割裂式结构。

2. After water, the next largest percentage of which the plasma is composed is protein.
除了水之外，血浆中占百分比最大的成分是蛋白质。
本句中of which the plasma is composed为定语从句。

3. They are different from other cells in that the mature form found in the circulating blood does not have a nucleus.
红血球与其他细胞不同，因为循环血液中发现的成熟形态并不具备细胞核。
in that是一种固定搭配，其意为“因为”，与for the reason that, because 同义，可用于引导原因状语从句。

④ If it were not for the platelets, or thrombocytes, we would not last very long because the slightest cut would prove fatal.
要是没有血小板，我们就无法活得长久，因为小小一道伤口都会是致命的。
本句是虚拟条件句，表示与现在事实相反的假设。

Text Comprehension

I. Choose the best answers to the following questions.

1. Which of the following constitutes the largest part of blood plasma?
A. Suspended cells. B. Water. C. Minerals. D. Glucose.
2. Which of the following is NOT a kind of protein found in blood plasma?
A. Amino acids absorbed in the digestive process.
B. Antibodies concerned with the body's immunity.
C. Some elements involved in blood clotting.
D. Carbohydrates and lipids present in the blood.
3. Which of the following is NOT true of the erythrocytes?
A. The mature ones do not have a nucleus.
B. They are shaped like a ball.
C. They carry a substance called hemoglobin.
D. They are the most numerous blood cells.
4. Which of the following is NOT true of the leukocytes?
A. They are different from the erythrocytes in appearance.
B. They contain nuclei of varying shapes and sizes.
C. They have more different divisions than the erythrocytes.
D. They are lighter in weight than the erythrocytes.
5. The leukocytes become most active when _____ .
A. there is an invasion by pathogens B. there is a wound of any kind
C. the blood vessels are damaged D. some of them are destroyed
6. What is the essential role the platelets play?
A. They stop bleeding that may prove fatal.
B. They clear up the damaged blood cells.
C. They protect the tissues they come in contact with.
D. They promote the function of the liver.

II. Decide whether each of the following statements is True (T) or False (F) according to the text.

_____ 1. Blood cells are joined together as other body cells which form the solid tissue.
_____ 2. The cellular portion of the blood is called the plasma.

3. While 90% of plasma is water, it contains complex substances.
4. Blood cells have shorter life compared with most body cells because they have no nucleus.
5. The leukocytes are also called white blood cells since they are white colored.
6. Liver dysfunction may cause difficulty in forming clots.

Vocabulary

I. Fill in the blanks with the proper form of the words given.

shed	**outnumber**	**average**	**vital**
engulf	**store**	**generate**	**dissolve**

1. The secretions of the stomach help _____ and degrade (分解) the food.
2. Liver cells _____ glycogen (糖原) to be given out again as sugar when the blood needs it.
3. A tidal wave completely _____ the seaside village.
4. In most of the hospitals, male doctors still _____ female doctors.
5. Amniotic fluid (羊水) contains fetal cells _____ from skin and other tissues.
6. The brain centers normally control the _____ bodily functions.
7. The heart is a muscular pump, the strokes of which _____ about 72 per minute.
8. Such reactions can be _____ by touching some parts of the body.

II. Choose the correct word to complete each of the following sentences.

1. To _____ the extra blood through an extra-large body, the heart must pump at higher pressure.
   A. distribute　　B. regulate
   C. circulate　　D. metabolize
2. Glucose is _____ in certain cells, especially those of the liver and muscles.
   A. manufactured　　B. stored
   C. neutralized　　D. localized
3. A collection of dead and living bacteria, together with dead and living leukocytes, is called _____ .
   A. abscess　　B. clot　　C. pus　　D. mass
4. In the fighting against bacteria, the leukocytes themselves may die and _____ .
   A. release　　B. disintegrate　　C. vary　　D. destroy
5. _____ is (are) particles that bring about the process of clotting.
   A. Plasma　　B. Erythrocytes　　C. Leukocytes　　D. Platelets

Grammar and Structure

I. Complete the sentences below, using an attributive clause that fits into the context.

There are a number of attributive clauses in this text, and the following are just a few examples:

1. Blood is the fluid *that circulates in the arteries, veins, and capillaries*.
2. Erythrocytes are tiny disk-shaped bodies with a central area *that is thinner than the edges*.
3. After water, the next largest percentage *of which the plasma is composed* is protein.
4. These cells live a much shorter time than most other cells of the body, *some of which last a lifetime*.

Now, complete the sentences below, using an attributive clause that fits into the context.

A. which use some of this material and add others
B. which is manufactured in the liver and circulates in the plasma
C. that returns from the tissues, via the veins, and back to the lungs
D. that goes from the lungs, through the arteries, to the tissues
E. that performs vital pickup and delivery services for the body
F. by which blood is prevented from leaving an injured blood vessel

1. The blood _____ is bright red because it carries a brand-new supply of oxygen.
2. The blood _____ is a much darker red, since it has given up much of its oxygen.
3. Blood is a complex transport medium _____ .
4. The blood carries substances to and from organs _____ .
5. A chemical is released and reacts with a protein called fibrinogen _____ .
6. Hemostasis (止血) is the process _____ .

II. Complete the text about Blood Banks by supplying the proper choice given.

Blood can be bottled and kept available for emergencies in blood banks. In order to keep the blood from ___1___ (clotting/being clotted), sodium citrate in solution is added. This blood may then ___2___ (store/be stored) for a number of days, usually ___3___ (no more/no less) than one to a maximum of three weeks. ___4___ (As/ Such) blood storage is especially important in times of disaster and during wartime. The supplies of blood in the banks ___5___ (are dated/being dated), and these dates are noted before the transfusion is given to avoid ___6___ (giving/given) blood in which red cell may ___7___ (be disintegrated/have disintegrated). Since about 40 percent of persons have type O blood, and since this type of blood may ___8___ (be used/have used) for all types of patients in an emergency, ___9___ (it/this) is especially important to have

larger supplies of this type in the blood bank. In 10 (any/some) case, the patient's blood 11 (can/must) be cross-matched with the blood 12 (used/to be used) before the transfusion is begun.

Translation

I. Translate the following sentences into English.

1. 输血就是把取自一个人的血液或血液制品输入到另一个人的血液之中。

2. 输血通常是一种拯救生命的措施，目的在于补充手术期间出现大出血而失去的血细胞。

3. 发生感染时，白细胞会迅速赶到感染部位与入侵的病菌搏斗。

4. 血小板对于凝血或者让血液变得黏稠至关重要。

Text B

Blood Studies

Many different kinds of studies may be made of the blood. Some of these have become a standard part of a routine physical examination. Machines have replaced many of the manual procedures, particularly in larger institutions.

The Hematocrit

The hematocrit is the volume percentage of red blood cells in whole blood. It is regarded as a more reliable indicator of red cell counts than either the manual counting or the machine method. The hematocrit is determined by spinning a blood sample in a centrifuge; in this way the cellular elements are separated out from the plasma.

The hematocrit is expressed as milliliters of blood or as volumes per 100 milliliters. Thus, in the laboratory you may read a report stating "hematocrit, 38" which would mean that the space occupied by the red blood cells was 38 percent of the whole blood volume. In males the normal range is 45 to 50 volumes per 100 ml. In females it is 40 to 45 volumes per 100 ml. Values much above or much below these point to an abnormal situation requiring further study.

Blood Cell Counts

An apparatus for counting the number of blood cells is called a hemocytometer. The normal count for red cells varies from about 4.5 to 5.5 million cells per cubic millimeter (a cubic millimeter is a very tiny drop of blood). The leukocyte count varies from 5,000 to 9,000 per cubic millimeter.

In leucopenia the white count is below 5,000. It is characteristic of a few infections such as malaria and measles, as well as certain disorders of the blood-forming organs.

Leukocytosis means that the white blood count is in excess of 9,000 or 10,000 per cubic millimeter. It is particularly characteristic of most infections. It may occur also after hemorrhage and in gout and uremia, a result of kidney disease.

Amount of Hemoglobin

It is important to know that a person has an adequate amount of hemoglobin so that the tissues are assured a sufficient supply of oxygen. This is determined by means of a hemometer, also known as a hemoglobinometer. These devices vary in design, but in general the principle is that a comparison is made between the blood and a standard color scale. The normal amount of hemoglobin varies from about 14 to 16 grams per 100 cc. of blood. Too little hemoglobin is a factor in anemia. Because of the rather high percentage of the element iron in hemoglobin, it is important that the diet contain sufficient amounts of available iron.

Clotting Time

Nature prevents excessive loss of blood from small vessels by the formation of a clot. Preceding surgery and under some other circumstances, it is important to know that the time required for coagulation to take place is not too long. Since clotting is a rather complex process involving many elements, a delay may be due to a number of different factors, including lack of certain hormone-like substances, calcium salts and vitamin K.

Platelet Count

A count of the thrombocytes is done occasionally, but it is difficult to do accurately. Normal counts are said to vary from 250,000 to 500,000 in each cubic millimeter. However, numbers as low as 100,000 may not indicate abnormality. In some disorders in which there is a great tendency to hemorrhage, the count may go as low as 10,000.

Batteries of tests on blood serum are often done by machine. One, the Sequential Multiple Analyzer (SMA), provides for the running of some 12 or more tests per minute. Tests for electrolytes such as sodium, potassium, chloride and bicarbonate, plus enzyme tests such as those for alkaline phosphatase and transaminase may be included in this battery of tests. Others of importance include blood urea nitrogen (BUN), blood sugar, cholesterol and triglyceride evaluation.

Many of these blood serum tests help in evaluating disorders that may involve such vital organs as the heart, kidneys, liver and pancreas. For example, the presence of more than the normal amount of glucose (sugar) dissolved in the blood is called hyperglycemia and is found most frequently in diabetic persons. Sometimes several evaluations of sugar content are done following the administration of a known amount of glucose. This procedure is called the glucose

tolerance test and usually is given along with another test which determines the amount of sugar in the urine. This combination of tests can indicate faulty cell metabolism.

New Words and Expressions

hematocrit /'hemətəkrɪt/ *n.* 血球容积（量）计
indicator /'ɪndɪkeɪtə/ *n.* 标志物；指示器
centrifuge /'sentrɪfju:dʒ/ *n.* 离心机
milliliter /'mɪlɪli:tə(r)/ *n.* 毫升
apparatus /ˌæpə'reɪtəs/ *n.* 仪器
hemocytometer /ˌhi:məʊsaɪ'tɒmɪtə/ *n.* 血球计
leucopenia /ˌlju:kə'pi:nɪə/ *n.* 白细胞减少症
malaria /mə'leərɪə/ *n.* 疟疾
measles /'mi:zlz/ *n.* 麻疹
leukocytosis /ˌlju:kəsaɪ'təʊsɪs/ *n.* 白细胞增多症
hemorrhage /'hemərɪdʒ/ *n.*（尤指大量的）出血，失血
gout /gaʊt/ *n.* 痛风
uremia /jʊə'ri:mɪə/ *n.* 尿毒症
hemometer /hi:'mɒmɪtə/ *n.* 血红蛋白计= hemoglobinometer
precede /pri:'si:d/ *vt. & vi.* 先于
electrolyte /ɪ'lektrəʊlaɪt/ *n.* 电解质
serum /'sɪərəm/ *n.* 血清
sodium /'səʊdɪəm/ *n.* 钠
potassium /pə'tæsɪəm/ *n.* 钾
chloride /'klɔ:raɪd/ *n.* 氯化物
bicarbonate /baɪ'kɑ:bənɪt/ *n.* 重碳酸盐
phosphatase /'fɒsfəteɪs/ *n.* 磷酸（酯）酶
transaminase /træn'sæmɪneɪs/ *n.* 转氨酶
nitrogen /'naɪtrədʒən/ *n.* 氮
cholesterol /kə'lestərəʊl/ *n.* 胆固醇
triglyceride /traɪ'glɪsəraɪd/ *n.* 甘油三酸酯
pancreas /'pæŋkrɪəs/ *n.* 胰，胰腺
hyperglycemia /ˌhaɪpəglaɪ'si:mɪə/ *n.* 多糖症，高血糖症
Sequential Multiple Analyzer (SMA) 顺序多项分析器
Blood Urea Nitroge (BUN) 血尿素氮

Review and Practice

I. Choose the best answers to the following questions according to the text.

1. Which of the following equipment is designed for blood cell counting?
   A. Centrifuge. B. Hemocytometer.
   C. Hemoglobinometer. D. Sequential Multiple Analyzer.
2. Which of the following conditions implies the existence of infection?
   A. Hemoglobin under 14 grams per 100 cc.
   B. Platelet Count under 100,000 per cubic millimeter.
   C. White blood count over 10,000 per cubic millimeter.
   D. Red blood count over 5.5 million cells per cubic millimeter.

3. Which of the following is closely related to supply of oxygen?
   A. Platelet. B. Blood sugar. C. Hemoglobin. D. Antibodies.
4. Which of the following sentences is the closest in meaning to "Nature prevents excessive loss of blood from small vessels by the formation of a clot"?
   A. A clot is formed naturally every time there is blood loss in small vessels.
   B. Clotting is the nature's way to prevent blood loss from small vessels.
   C. Nature has different ways to prevent blood loss in large and small vessels.
   D. It seems so natural that there are special mechanisms by which clots are formed.

II. Decide whether each of the following statements is True (T) or False (F) according to the text.

_____ 1. Hematocrite is a more efficient way to assess red cell counts than either the manual counting or the machine method.
_____ 2. Leukocytosis is commonly seen in many infections.
_____ 3. Inadequate intake of iron from diet may cause anemia.
_____ 4. The glucose tolerance test is designed to detect the occurrence of hyperglycemia.
_____ 5. Platelet count is helpful to detect patients with tendency of bleeding.

III. Translate the following sentences into Chinese.

1. The white count below 5,000 is characteristic of a few infections such as malaria and measles, as well as certain disorders of the blood-forming organs.

2. Preceding surgery and under some other circumstances, it is important to know that the time required for coagulation to take place is not too long.

3. Leukocytosis means that the white blood count is in excess of 9,000 or 10,000 per cubic millimeter.

4. For example, the presence of more than the normal amount of glucose (sugar) dissolved in the blood is called hyperglycemia and is found most frequently in diabetic persons.

Word Building

The word element *hemo-*, or *hemato-*, denotes blood. The study of blood is called hematology, and hemoglobin is the main ingredient of the red cell.

Guess the meaning of the following words from the word elements in them.

hemotherapy　　hematostatic　　hemorrhage (*-rhage* bursting forth)
hemoptysis (*-ptysis* spitting)　　hematemesis (*-emesis* vomiting)
hematencephalon　　hemarthrosis

Here are two more word elements denoting colors and some sample words.

erythro- red　　erythrocytosis, erythropenia, erythromycin
leuko- white　　leukemia, leukolysis (*-lysis* dissolution), leukorrhea (*-rhea* flowing)

Unit Four

Keeping Records And Giving Reports

Warming-up

The oncoming and off-going nurses need to spend time passing information. This is called change-of-shift report. How do they usually do it? Do they also use report for other purposes? Let's hear some first-hand description.

A Nurse's Story: The Beginning of a Busy Day

Kathy likes to arrive early for shift change so she can have a cup of tea in her hand when she sits down to receive report. These are often the only unhurried minutes she will have before bed-time.

Each shift follows a series of fixed procedures, beginning with nursing report. Some hospitals use "walking report", with oncoming and off-going nurses going from bed to bed, passing information with the patient present, each able to assess what has been accomplished and what still needs to be done. In other hospitals, report is transmitted by tape recorder or, most commonly, seated face-to-face. Kathy's floor uses this last method, usually in a conference room next to the head nurse's office.

Officially, the function of report is to convey all pertinent information about the patients each nurse will be responsible for on the shift. It is usually organized by bed

number and includes the patient's name, age, race, diagnosis, and symptoms prompting admission, doctor, current length of stay (LOS), and the progress the patient has made toward discharge. Most of this information is noted within the tiny blocks of a Kardex. A Kardex is a clipboard-sized binder with index cards inserted into clear plastic sleeves, one per patient. Each card is specially printed with spaces for medication or treatment record keeping. It is possible to review someone's medication for up to a month at a glance. Nurses giving report commonly flip through the Kardex as a reference, conveying the most recent additions.

Unofficially, report functions as a time for socializing between shifts or as a chance to talk to a supportive listener about problems with patients, staff members, or administrators.

Before the previous shift's nurse departs, a narcotic count is done. Narcotics are counted by both the oncoming and off-going RNs, each signing a pharmacy inventory sheet verifying that the number on hand is correct.

Because report is given by room and bed numbers — and not by the degree of patient illness and care required — Kathy immediately sets about prioritizing those things that need to be accomplished on her shift. The patient population reflects a variety of illnesses — hypertension, diabetes, congestive heart failure, pulmonary, gastrointestinal and cardiovascular disorders.

Kathy usually starts off with those things that weren't done on the previous shift — return phone calls, check lab results, make sure this test is ordered, that X-ray read. There is a well-known phrase in the field: "Nursing is a twenty-four-hour profession," meaning each nurse gets done what she can and passes the rest on to her relief. However, leaving tasks unfinished is very much frowned upon.

New Words and Expressions

convey /kən'veɪ/ *vt.* 传递
prompt /prɒmpt/ *vt.* 提示
clipboard /'klɪpbɔ:d/ *n.* 有纸夹的笔记板
binder /'baɪndə/ *n.* 包扎物
depart /dɪ'pɑ:t/ *v.* 离开
narcotic /nɑ:'kɒtɪk/ *n.* 麻醉药，镇定剂
inventory /'ɪnvəntrɪ/ *n.* 存货清单
prioritize /praɪ'ɒrɪtaɪz/ *vt.* 划分优先顺序
congestive /kən'dʒestɪv/ *adj.* 充血的
gastrointestinal /ˌgæstrəʊɪn'testənl/ *adj.* 胃与肠的
cardiovascular /ˌkɑ:dɪəʊ'væskjʊlə/ *adj.* 心血管的
frown /fraʊn/ *vt. & vi.* 皱眉，不同意
change-of-shift 换班
length of stay 住院时间
set about 着手，开始
plastic sleeve 塑料套管

Warming-up Activities

I. Choose the best answer according to the text.

1 According to the second paragraph, which of the following statements is NOT true?
A. Nursing report is a routine procedure at the change of shift
B. Walking report enables nurses to assess the patient at bedside.
C. Nursing report transmitted by tape recorder is done in every hospital.
D. Nursing report may take place in a conference room with nurses sitting face to face.

2 What do we learn about Kardex?
A. The important information about patients is kept in it.
B. One Kardex is used to record information about each patient.
C. Information about medication or treatment must be printed in its pages.
D. The Kardex is passed from the off-going nurse to the oncoming nurse.

3 The main objective of the nursing report is to _____ .
A. convey the patient's complaints
B. communicate with colleagues
C. transmit the patients' information
D. give new assignments for the shift

4 The text implies that _____ .
A. narcotics are the most commonly used medications on Kathy's floor
B. narcotics are something both the oncoming and off-going nurses are responsible for
C. administering narcotics is the most important things to be accomplished in a shift
D. narcotics must be used in the correct amounts as ordered by the doctors

5 Which of the following reflects the meaning of the saying "Nursing is a twenty-four-hour profession"?
A. Nurses may have to work any time during a day.
B. Nurses have endless work to do during a shift.
C. Nursing is a service that cannot be stopped even for a moment.
D. Nurses are not supposed to leave unfinished tasks behind.

II. Learn the use of idiomatic expressions with the help of a dictionary.

Hand

1. I'd love to help, but I've ***got my hands full*** organizing the school play.
2. We can't ***lay our hands on*** enough of nurses; they are really in short supply.
3. We need to find things for them to do; they ***have time on their hands***.
4. Let's ***give him a hand***; it's wrong to just look on with folded arms.

Text A

Recording and Reporting

The client's care plan becomes more useful when it is communicated to all members of the health care teams. Usually several persons in a hospital are involved in the care of a client. Records and reports allow each team member to become aware of other members' actions and decisions in delivering care. In an outpatient setting a client may visit several units (such as psychiatric, internal medicine, and surgical) many times over the course of a year. A method for communicating the client's changing health care needs is required so that each department is aware of the client's current health status. All health team members rely on reports and records to administer care that is directed toward the same goals.

Reports and records contain specific information related to a client's health care. A report involves an oral or written exchange of information. When nurses complete a shift or tour of duty, they give a verbal report to the nurses on the next shift. A client's overall condition and response to therapy are reported to keep the nurse assigned to the client well-informed. Support services such as the laboratory and the radiology department issue written reports describing the results of diagnostic tests. These reports are put into the client's permanent medical record.

A client's record is a written communication that permanently documents information relevant to a client's health care management. An example is the clinic record or chart. After each clinic visit, information about why the client sought medical care, diagnostic tests, the physician's diagnosis, and choice of therapy is recorded. When the client returns to the clinic, the nurse or physician has the

record available. It becomes a continuing account of the client's health care needs.

Characteristics of Good Reporting and Recording

The nurse is responsible for ensuring that all information needed for the client's nursing care is successfully communicated.

There are six useful guidelines to follow to ensure that information pertinent to a client's care is successfully and correctly communicated.

1) Accuracy — Information must be correct. Discriminate clearly as to whether objective or subjective data are being communicated. Always differentiate between observations of the client's behavior and interpretations of those observations. Use precise measurements when communicating data. Use correct spelling and the institution's accepted abbreviations and symbols to ensure accurate interpretation of information. Always complete a descriptive entry in the client's record with an accurate signature including first initial, complete surname, and status, such as R.N. or L.P.N. Do not use nicknames.

2) Conciseness — Provide precise essential information in a report or written note. A brief, well-written note is more likely to be read than a lengthy, irrelevant one.

3) Thoroughness — Even a concise record or report must contain complete information about a client. Follow established criteria when reporting or recording certain topics.

4) Currentness — Delays in recording or reporting can result in serious omissions and untimely delays for clients receiving needed care. Decisions about a client's care are based on currently reported information. Activities that must be communicated at the time they occur include administration of medications or other treatments; preparation of clients for diagnostic tests or surgery; change in a client's status; admission, transfer, or discharge of a client; and treatment initiated for sudden changes in a client's condition. Use the institution's accepted time system for reporting or recording information.

5) Organization — Communicate all information in a logical format or order. A health team member will better understand information conveyed in the order in which it occurred.

6) Confidentiality — Information about a client should only be communicated with the understanding that such information will not be disclosed to unauthorized persons. The law protects information about a client that is gathered by examination, observation, conversation, or treatment.

New Words and Expressions

psychiatric /ˌsaɪkɪ'ætrɪk/ *adj.* 精神病学的
verbal /'vɜːbəl/ *adj.* 口头的
relevant /'relɪvənt/ *adj.* 有关的
account /ə'kaʊnt/ *n.* 记述，描述
discriminate /dɪs'krɪmɪneɪt/ *vt.* 歧视；区别，辨别
differentiate /ˌdɪfə'renʃɪeɪt/ *vi.* 区分，辨别
abbreviation /əˌbriːvɪ'eɪʃən/ *n.* 缩略词
lengthy /'leŋθɪ/ *adj.* 冗长的
omission /əʊ'mɪʃən/ *n.* 遗漏
untimely /ʌn'taɪmlɪ/ *adj.* 不合时宜的
conciseness /kən'saɪsnɪs/ *n.* 简洁，简明
confidentiality /ˌkɒnfɪˌdenʃɪ'ælətɪ/ *n.* 机密性
disclose /dɪs'kləʊz/ *vt.* 公开；揭露

Notes To The Text

1. A method for communicating the client's changing health care needs is required so that each department is aware of the client's current health status.
需要有一种方法来表述病人不断变化着的医疗需求，这样每一个部门就能了解病人目前的健康状况。
本句主句部分是A method for communicating the client's changing health care needs is required，其中A method for communicating the client's changing health care needs为主语部分，so that引导结果状语从句。如果so that 从句谓语部分含有情态动词，则通常表示目的。
I spend more time learning English every day so that (= in order that) I can make greater progress this year. 为了今年取得更大进步，我每天用更多的时间学习英语。

2. A client's overall condition and response to therapy are reported to keep the nurse assigned to the client well-informed.
病人总体状况和治疗效果需要报告，这样该病人的当班护士可以充分了解情况。
句中keep the nurse assigned to the client well-informed部分，主要结构为：keep the nurse well- informed，assigned to the client 为过去分词短语，修饰the nurse。

3. Delays in recording or reporting can result in serious omissions and untimely delays for clients receiving needed care.
延迟记录或报告可能造成严重疏忽，接受所需治疗的病人会被耽误。
receiving needed care 为现在分词短语，修饰clients。

Text Comprehension

I. Choose the best answers to the following questions.

1. Why is it so important to record and report a client's information?
A. Because the client can freely visit various departments of different healthcare settings.
B. Because all health team members rely on reports and records to administer proper care.
C. Because related healthcare providers usually treat the same problem of a client.
D. Because communicating the client's changing health care needs is a fix procedure.
2. Which of the following is NOT mentioned as a form of reporting discussed in the text?
A. A verbal report that nurses give to their colleagues on the next shift.
B. Reports that support services issue concerning the results of diagnostic tests.
C. Reports that contain specific information related to a client's health care.
D. Reports about the number of patients currently being treated in the department.

3. The clinical record of a client _____ .
   A. is a written communication between a client and healthcare providers
   B. is mainly a collection of written reports issued by the laboratory
   C. keeps information relevant to a client's health care management
   D. is an account of how the client has responded to different therapies
4. In terms of accuracy, which of the following is NOT required?
   A. Only the objective data should be reported or recorded.
   B. Information, whether reported or recorded, must be correct.
   C. Objective data and subjective data should not be confused.
   D. Precise measurements should be used to avoid misunderstanding.
5. Currentness is emphasized as a guideline so that _____ .
   A. serious omissions can be avoided
   B. all activities can be communicated
   C. decisions can be made based on updated information
   D. treatment can be started if a client's condition changes
6. Communicating all information in a logical format or order is a reflection of _____ .
   A. conciseness B. thoroughness C. organization D. confidentiality

Vocabulary

I. Fill in the blanks with the proper form of the words given.

aware	**require**	**rely**	**involve**
response	**describe**	**relevant**	**discriminate**

1. It is important for patients to _____ their symptom clearly to their physician.
2. Owing to little _____ , the surgeon has to ask the young parents again about their decision of the operation plan for their little boy.
3. In addition to the money for operation, transplantation _____ a large cost for further medicine after surgery.
4. When there is a nursing error, the nurses on shift will be _____ to give a detailed report to the head nurse in person.
5. The diagnosis of traditional Chinese medicine _____ on observation, listening, interrogation and pulse taking.
6. Further observations and laboratory tests indicated that the utilization of herbs was not a _____ factor to her stroke.
7. Being _____ of the danger to her baby, she chose to take a holiday during pregnancy.
8. You must learn to _____ between facts and opinions.

II. Choose the correct word to complete each of the following sentences.

1. All staff members should strictly follow established _____ when reporting or recording certain topics.
   A. criteria B. indications C. interpretation D. documentations
2. Every year thousands of people suffer _____ disability as a result of strokes.
   A. concise B. relevant C. vital D. permanent
3. It is wrong to disclose such information to _____ persons.
   A. unsuitable B. unauthorized C. pertinent D. unavailable
4. When there is a sudden change in a client's condition, treatment should be _____ as soon as possible.
   A. abbreviated B. assigned C. initiated D. observed

Grammar and Structure

I. Point out the noun-clause in the sentences below.

A noun-clause introduced by *why* and *whether* is used in the following two sentences from the text.

1. After each clinic visit, information about *why the client sought medical care*, diagnostic tests, the physician's diagnosis, and choice of therapy is recorded.
2. Discriminate clearly as to *whether objective or subjective data are being communicated*.

Now point out the noun-clause in the following sentences.

1. The law protects information about what the private life of a client is like.

   _____

2. Clients do not always remember what medications they have received.

   _____

3. Only through repeated practice can the nursing students learn how a procedure is performed.

   _____

4. Decisions about how a client should be cared for are based on currently reported information.

   _____

5. The record does not show whether an earlier dose of medication was administered.

   _____

II. Rewrite the following sentences, using an adverbial clause of result introduced by *so that*.

Model:

A method for communicating the client's changing health care needs is required; as a result, each department is aware of the client's current health status.

A method for communicating the client's changing health care needs is required *so that* each department is aware of the client's current health status.

1. At rest the body's demand for oxygen is comparatively small; as a result, breathing is slow and superficial.

2. Normally all the individual organs are functioning properly; as a result, the body as a whole works smoothly.

3. All information is communicated in a logical format or order; as a result, other health team members understand fully the information conveyed.

4. Cells of the central nervous system are extremely sensitive to low blood levels of oxygen; as a result, lack of oxygen results in serious damage.

Translation

I. Translate the following sentences into English.

1. 病史和个人信息是严格对外保密的。

2. 对于危重病人的交接班，内容通常应更为详细和具体。

3. 篡改病史或诊疗记录是违法的。

4. 书写病史能考验医生的文字表达能力和概括能力。

Text B

Change-of-Shift Report

At the end of each shift the nurse gives a report about assigned clients to a nurse working in the next shift. The major purpose of the report is to provide continuity of care. If a dressing is changed a certain way during the day shift, it should be changed the same way on the evening shift unless the client's condition changes or a

physician's order changes the procedure. If the day nurse was unable to complete a discussion with the client concerning a disease process, the evening nurse can resume the discussion without wasting time giving repetitive information. A complete report is important for establishing the nurse's accountability in the eyes of the client. A client who sees different nurses performing the same procedure in different ways may become anxious and wonder if all the nurses are providing good nursing care.

Change-of-shift reports are given orally in person or by audiotape recordings. Reports given in person permit nurses to obtain immediate feedback.

The change-of-shift report may be conducted in a conference room or during the nurses' "walking rounds". During walking rounds the nurses visit all clients to review their conditions as the report is given. Making rounds has several advantages: the client meets the staff providing care, activities to be expected during the shift are explained, and the nurse observes and meets the client. Any information that might alarm the client is reported out of the client's hearing. The nurse giving the report ensures the client's privacy by speaking in a low voice to prevent others from overhearing the information.

The report should be given quickly and efficiently. The sequencing of specific types of information helps to keep a report organized. In a hospital, the report is usually given in order of the client's room numbers. The nurse begins with basic information concerning the reason for the client's hospitalization, followed by a detailed description of the client's progress during the shift. A clinic nurse may choose to give the report in order of the clients' appointments, detailing the reason for each client's visit. Whatever method is used, an organized sequence allows each nurse to anticipate the flow and direction the report is taking.

The change-of-shift report on each client typically includes the following information:

1. Client's name, age, and sex
2. Physician's name
3. Medical diagnosis
4. Nursing diagnosis or problems
5. General description of client's physiological and psychological condition
6. Tests, procedures, or surgery scheduled
7. New therapies ordered, such as medications or intravenous fluids
8. Dietary and activity restrictions
9. Significant medications and their effects
10. Client's response to nursing care measures and therapies
11. Teaching plan
12. Ongoing discharge plan
13. Significant information concerning family members

It is especially important to report any recent changes or priorities concerning the client's condition.

When giving a report the nurse discusses the client or his family professionally and with dignity. It is often necessary to describe the interaction between client, nurse, and family

members in behavioral terms. The nurse avoids using such labels as “uncooperative”, “difficult”, or “bad” when describing the client behaviors. A good report is objective and nonjudgmental. The content of the report should be pertinent to the client’s health care.

New Words and Expressions

continuity /ˌkɒntɪ'nju:ɪtɪ/ *n.* 延续，衔接
repetitive /rɪ'petɪtɪv/ *adj.* 重复的
accountability /əˌkaʊntə'bɪlɪtɪ/ *n.* 有责任，责任制
audiotape /'ɔ:dɪəʊteɪp/ *n.* 录音，录音磁带
sequence /'si:kwəns/ *vt.* 安排顺序
hospitalization /ˌhɒspɪtəlaɪ'zeɪʃən/ *n.* 住院治疗，送入医院
priority /praɪ'ɒrɪtɪ/ *n.* 优先
make rounds 巡诊，查房

Review and Practice

I. Choose the best answers to the following questions according to the text.

1. According to the text, a good change-of-shift report _____ .
   A. helps the nurse in the next shift to continue proper patient care
   B. ensures the continuity of the discussion of the patient’s problems
   C. relieves the patient of unnecessary anxiety or worry
   D. establishs the nurse’s reputation in the eye of the patient
2. When change-of-shift reports are given orally in person, _____ .
   A. the two nurses involved talk in the presence of the patient
   B. the two nurses involved talk about the patient’s condition face to face
   C. each of the two nurses involved talks with the patient privately
   D. the two nurses involved talk about the patient’s condition by turns
3. The walking rounds have obvious advantages EXCEPT for the problem concerning _____ .
   A. giving the patient the opportunity to meet the nurses
   B. clear explanation of activities to be expected
   C. close observation of the patient’s condition
   D. proper protection of the patient’s privacy
4. According to the text, the sequencing of specific types of information has the advantage of _____ .
   A. keeping a report organized
   B. finishing the report quickly
   C. describing focal points efficiently
   D. relieving patient’s anxiety sufficiently
5. When giving a report, it is improper for the nurse _____ .
   A. to discuss the professional life of the client or his family

B. to describe the interaction between client, nurse, and family members
C. to use subjective and judgmental terms when describing the client behaviors
D. to report recent changes or priorities concerning the client's condition

II. Decide whether each of the following statements is True (T) or False (F) according to the text.

1. The day nurse does not need to give change-of-shift reports.
2. Making walking rounds enables nurses to discuss the client's conditions in a conference room.
3. An organized sequence allows each nurse to expect what probably comes next in the report.
4. Recent changes of the client's condition are of great importance for the nurse.
5. Labeling the clients is a good way for nurses to describe the client's behaviors correctly.

III. Translate the following sentences into Chinese.

1. Making rounds has several advantages: the client meets the staff providing care, activities to be expected during the shift are explained, and the nurse observes and meets the client.

2. A complete report is important for establishing the nurse's accountability in the eyes of the client.

3. The nurse giving the report ensures the client's privacy by speaking in a low voice to prevent others from overhearing the information.

4. Whatever method is used, an organized sequence allows each nurse to anticipate the flow and direction the report is taking.

Word Building

Reporting and recording frequently involve names of diseases and medical problems. Here are some commonly used medical terms which, when combined with other word elements, form an important part of medical terminology.

spasm（痉挛） sclerosis（硬化） necrosis（坏死） stenosis（狭窄）

Guess the meanings of the following words from the word elements in them.

otosclerosis	encephalosclerosis	myospasm	gastrospasm
enterostenosis	angiostenosis	rhinonecrosis	odontonecrosis

Unit Five

Keeping Your Heart In The Best Condition

Warming-up

Because of the high incidence of cardiovascular diseases, more and more people pay attention to their blood fat and cholesterol levels. But the picture seems complicated: HDLs and LDLs, plaques and atherosclerosis, heart attacks and strokes. But what is the best way to act?

Cholesterol and Heart Disease

The next time you're in a library or movie theater, notice the person sitting next to you: Current statistics indicate that either that person or you yourself will die of atherosclerosis, a disease sometimes referred to as "hardening of the arteries." What causes an artery to "harden"? Decades of research have focused on the role of cholesterol, a glistening white, fatty substance that is manufactured naturally by the liver. Cholesterol is an important component of cell membranes and is present in food, especially eggs, meat, and dairy products. Scientific evidence suggests that cholesterol can build up in an artery and lead to the formation of plaques, the thickened regions of the artery wall that close the textway and prevent blood from flowing freely. As blood flow becomes increasingly impeded in a given artery, a blood clot may form and block the flow completely, leading to a heart attack or, if

the affected artery is in the brain, to a stroke. Today, 3,400 Americans a day suffer heart attacks, and 1,600 suffer strokes; this makes cardiovascular diseases (ailments of the heart and blood vessels) the leading cause of death in this country.

Is cholesterol really the main culprit? As in so many areas of human physiology and medicine, the picture is complicated. More and more evidence suggests that susceptibility to atherosclerosis is highly individual and is related to both genetic tendencies and life-style habits. Physiologists now know that within a person's blood stream, cholesterol travels attached to carrier molecules called lipoproteins; high-density lipoproteins (HDLs, or "good cholesterol") have very few cholesterol molecules attached, while low-density lipoproteins (LDLs) have great number of attached cholesterols. Evidence suggests that by exercising regularly, eating more vegetable and fish oils, and avoiding smoking, heavy drinking, and obesity, a person will have higher level of HDLs, and these can help prevent plaques from building up in the blood vessels and decrease the risk of heart disease and strokes. People with high level of LDLs, seem to be at greater risk of developing atherosclerosis.

This understanding of the link between cholesterol and atherosclerosis has generated a search for drugs that can lower LDLs. In the meantime, the most prudent course is the one that health experts have been recommending all along: Eat fewer fatty foods, get more exercise, maintain ideal weight, don't smoke, and drink moderately if at all.

New Words and Expressions

atherosclerosis /ˌæθərəʊsklɪəˈrəʊsɪs/ *n.* 动脉粥样硬化
glisten /glɪsn/ *vi.* 闪耀
membrane /ˈmembreɪn/ *n.* 膜
impede /ɪmˈpiːd/ *vt.* 阻碍，阻止
ailment /ˈeɪlmənt/ *n.* 疾病（尤指微恙）
culprit /ˈkʌlprɪt/ *n.* 犯人，罪犯
molecule /ˈmɒlɪkjuːl/ *n.* 分子
lipoprotein /ˌlɪpəˈprəʊtiːn/ *n.* 脂蛋白
obesity /əʊˈbɪsɪtɪ/ *n.* 肥胖，肥胖症
prudent /ˈpruːdənt/ *adj.* 小心的

Warming-up Activities

I. Answer the following questions according to the text.

1. What is cholesterol? Is it useful in the normal functioning of the body?

2. What role does cholesterol play in causing heart attacks or strokes?

3. What is susceptibility to arthrosclerosis related to?

4. What is a major difference between high-density lipoproteins (HDLs) and low-density lipoproteins (LDLs)?

5. How can we increase HDLs in our blood so as to decrease the risk of heart disease and strokes?

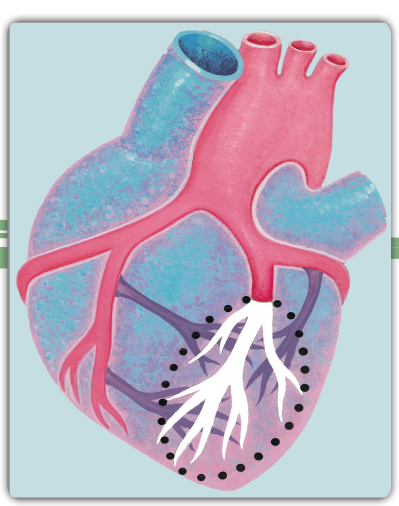
II. Learn the use of idiomatic expressions with the help of a dictionary.

Heart

1. If you want to keep up with others, you must ***put your heart into*** your study.
2. How can you say such a thing? You want to ***break your mother's heart***?
3. Let's go straight to ***the heart of the matter***.
4. I didn't ***have the heart to tell*** my daughter that we couldn't keep the puppy.

Text A

Structure of the Heart



The heart is a muscular pump which drives the blood through the blood vessels. This organ is slightly bigger than a fist, and is located between the lungs in the center and a bit to the left of the midline of the body. The strokes of this pump average about 72 per minute and are

carried on unceasingly for the whole of a lifetime.

The importance of the heart has been recognized for centuries. The fact that its rate of beating is affected by the emotions may be responsible for the very frequent references to the heart in song and poetry. However, the vital functions of the heart and the tragic increase in heart disease are of more practical importance to us at this time.

Layers of the Heart Wall

The heart is a hollow organ, the walls of which are formed of three different layers. Just as a warm coat might have a smooth lining, a thick and bulky interlining and an outer layer of a third fabric, so the heart wall has three tissue layers, as follows:

1. Endocardium, a very smooth layer of cells that resembles squamous epithelium. This membrane lines the interior of the heart, and is also the material of which the valves of the heart are formed.

2. Myocardium, which is the muscle of the heart and is much the thickest layer.

3. Pericardium, which forms the outermost layer of the heart wall as well as serving as the lining of the pericardial sac.

Two Hearts and a Partition

Physicians often refer to the right heart and the left heart. This is because the human heart is really a double pump. The two sides are completely separated from each other by a partition called the septum. The upper part of this partition is called the interatrial septum, while the larger lower portion is called the interventricular septum. This septum, as in the case of the heart wall, is largely myocardium.

Four Chambers

On either side of the heart there are two chambers, one of which is a receiving space and the other a pumping chamber. These four chambers are called:

1. The right atrium, which is a thin-walled space that receives the venous blood returning from the body tissues. This blood is carried in the veins, which are the blood vessels leading to the heart from the body tissues.

2. The right ventricle, which pumps the venous blood dropped into it from the right atrium, and sends it to the lungs.

3. The left atrium, which receives blood high in oxygen content as it returns from the lungs.

4. The left ventricle, which has the thickest walls of all in order to pump oxygenated blood to all parts of the body. This blood goes through the arteries, which is the name for the vessels that take blood from the heart to the tissues.

Four Valves

Since the ventricles are the pumping chambers, the valves, which are all one-way, are located at the entrance and the exit of each ventricle. The valves at the entrances are the atrioventricular valves, while the exit valves are semilunar valves. Each valve has a specific name, as follows:

1. The tricuspid valve. It closes at the time the right ventricle begins pumping in order to prevent any blood from going back into the right atrium. This is the right atrioventricular valve.

2. The pulmonary semilunar valve, located between the right ventricle and the pulmonary

artery, which leads to the lungs. As soon as the right ventricle has finished emptying itself, the valve closes in order to prevent blood on its way to the lungs from returning to the ventricle.

3. The mitral valve, or left atrioventricular valve, which is made of two rather heavy flaps or cusps. This valve closes at the time the powerful left ventricle begins its contraction. It prevents the blood from returning to the left atrium.

4. The aortic semilunar valve located between the left ventricle and the largest artery, the aorta, prevents the return of aortic blood to the left ventricle.

New Words and Expressions

unceasingly /ʌn'si:sɪŋlɪ/ *adv.* 继续地，不断地
bulky /'bʌlkɪ/ *adj.* 庞大的
interlining /'ɪntə'laɪnɪŋ/ *n.* 夹层
endocardium /ˌendəʊ'kɑ:dɪəm/ *n.* 心内膜
squamous /'skweɪməs/ *adj.* 鳞片状的，鳞状
epithelium /ˌepɪ'θi:lɪəm/ *n.* 上皮，上皮细胞
septum /'septəm/ *n.* 隔膜
interatrial /ˌɪntər'eɪtrɪəl/ *adj.* 心房间的
interventricular /ˌɪntəven'trɪkjʊlə(r)/ *n.* （心脏）室间的
myocardium /ˌmaɪəʊ'kɑ:dɪəm/ *n.* 心肌（层）
pericardium /ˌperɪ'kɑ:dɪəm/ *n.* 心包膜
atrium /'ɑ:trɪəm/ *n.* 心房
venous /'vi:nəs/ *adj.* 静脉的
ventricle /'ventrɪkl/ *n.* 心室
valve /vælv/ *n.* （心脏的）瓣膜
atrioventricular /ˌeɪtrɪəʊven'trɪkjʊlə(r)/ *adj.* 心房与心室的，房室的
semilunar /'semɪ'lu:nə/ *adj.* 半月形的
pulmonary /'pʌlmənərɪ/ *adj.* 肺的
mitral /'maɪtrəl/ *adj.* 冠状的
flap /flæp/ *n.* 扁平物
cusp /kʌsp/ *n.* 尖头，尖端
aortic /eɪ'ɒtɪk/ *adj.* 大动脉的

Notes To The Text

1. The fact that its rate of beating is affected by the emotions may be responsible for the very frequent references to the heart in song and poetry.
心率会受到情绪影响，也许这一事实是歌曲与诗歌中经常提及心脏的原因。
句中that its rate of beating is affected by the emotions是同位语从句，修饰the fact。
be responsible for可以用来说明原因。

2. The right ventricle, which pumps the venous blood dropped into it from the right atrium, and sends it to the lungs.
右心室将自右心房流入的静脉血压送至两肺。
句中dropped into it from the right atrium为过去分词短语修饰the venous blood。

③ This membrane lines the interior of the heart, and is also the material of which the valves of the heart are formed.
心内膜衬于心脏内壁，同时也是构成心脏瓣膜的材料。
句中of which the valves of the heart are formed为定语从句，修饰其先行词the material，of which the valves of the heart are formed= which the valves of the heart are formed of。

Text Comprehension

I. Choose the best answers to the following questions.

1. Which of the following statements about the heart is NOT accurate?
   A. It is located between the lungs in the midline of the body.
   B. It is a muscular pump which drives the blood through the blood vessels.
   C. The beatings of the heart go on unceasingly throughout a lifetime.
   D. It is an organ essential to the survival of an individual.
2. The second paragraph suggests that _____ .
   A. the fact that the rate of heartbeats is affected by the emotions is not important
   B. the references to the heart in songs and poems show the importance of the heart
   C. the text here will be more concerned with the medical facts of the heart
   D. the author wants to discuss things other than functions and diseases of the heart
3. The author mentions a warm coat in order to show _____ .
   A. that the structure of heart is not very complicated
   B. that the walls of the heart are formed by different layers
   C. that the heart is an organ covered outside but hollow inside
   D. that the heart needs a covering just as people need a warm coat
4. Why do physicians often refer to the right heart and the left heart?
   A. Because there are actually two hearts in the body.
   B. Because the human heart is really a double pump.
   C. Because the two sides are partially separated.
   D. Because the heart has an upper portion and a lower portion.
5. Which chamber of the heart has the thickest walls and the most powerful muscles?
   A. The right atrium.　　B. The left atrium.
   C. The right ventricle.　　D. The left ventricle.
6. Why are there valves at the entrance and the exit of the ventricles?
   A. Because they receive blood carried in the veins.
   B. Because they need to drive the blood in one direction.
   C. Because they are connected with the two atria.
   D. Because they contract regularly and rhythmically.

II. Give the correct names for the valves located in different places.

1. the one between the left ventricle and the aorta

_____

2. the one between the right ventricle and the pulmonary artery

_____

3. the one between the left atrium and left ventricle

_____

4. the one between the right atrium and the right ventricle

_____

Vocabulary

I. Choose the correct word to complete each of the following sentences.

1. A muscle wall called _____ divides the heart lengthwise.
   A. partition B. layer C. septum D. portion
2. The heart is completely enclosed by a thin sac called _____ .
   A. membrane B. pericardium C. myocardium D. endocardium
3. The thin-walled _____ collect the blood flowing into the heart from the veins.
   A. atria B. ventricles C. chambers D. vessels
4. The endocardium lines the _____ of the heart.
   A. fabric B. exterior C. outermost D. interior
5. The semilunar valve that controls blood-flow from the left ventricle to the aorta is also called the _____ valve.
   A. pulmonary B. aortic C. mitral D. tricuspid
6. He is strong enough to drive in the nail with just one _____ of the hammer.
   A. stroke B. squeeze C. split D. crush
7. She looked old and thin with sunken cheeks and _____ eyes.
   A. glistening B. prudent C. hollow D. bulky
8. The mitral valve closes at the time the powerful left ventricle begins its _____ .
   A. relaxation B. coagulation C. regulation D. contraction

II. Choose the correct word from the two choices given.

Almost all heart attacks are caused by a clot of blood _____1_____ (blocking/separating) a coronary artery that has become hard and narrow because of arteriosclerosis. Today, heart attacks are the greatest _____2_____ (simple/single) cause of death in the industrialized world.

A heart attack occurs suddenly, but the process leading to it is a slow one. First, fats in the blood _____3_____ (collect/store) inside the coronary arteries, forming fat deposits,

or plaques, on the wall. The plaques grow and chock the arteries, 4 (starving/emptying) the muscle they serve. Curiously, a natural lifesaving property of blood makes the plaques worse. Clots 5 (form /dissolve) around some of them. If the combination of plaque and clot becomes sufficiently large, the artery is completely 6 (plugged/ceased) and blood flow is stopped. The heart muscle, downstream from the obstruction, thus is killed. This is a heart attack — in doctors' words, a myocardial infarction. It may take years before a coronary artery is 7 (weakened/narrow) enough to be sealed off completely; however, if a major coronary artery is blocked, 8 (cutting off/breaking out) the blood supply to a large area of the heart, the attack is usually fatal.

Fortunately, the majority of hospitalized heart attack patients 9 (revive/survive). About 80 per cent of the survivors are capable of returning to work after several weeks of 10 (release/recovery).

Grammar and Structure

I. Rewrite the sentences below by following the models given.

Model:

The heart is a hollow organ; *the walls of this organ* are formed of three different layers.
The heart is a hollow organ, *the walls of which* are formed of three different layers.

1. The heart is a muscular organ; the function of the organ is to pump blood to all parts of the body.

_____

2. On either side of the heart there are two chambers; one of the chambers is a receiving space and the other a pumping chamber.

_____

3. The iron lung is a metal chamber: the variations of the chamber cover either the chest or all of the patient with the exception of his head.

_____

Model:

A warm coat might have a smooth lining, a thick and bulky interlining and an outer layer of a third fabric; similarly, the heart wall has three tissue layers.
Just as a warm coat might have a smooth lining, a thick and bulky interlining and an outer layer of a third fabric, *so* the heart wall has three tissue layers.

4. An engine requires fuel to run; similarly, the human body requires food to carry on all of its activities.

_____

5. A child loses heat more rapidly than an adult; similarly, such parts as the fingers and the toes are affected more by exposure to cold, because in each case there is a greater amount of skin compared with total tissue volume.

6. The frequent use of an organ strengthens its performance; similarly regular exercise improves respiratory efficiency.

II. Complete the short text by putting in the blank a proper form of the verb given.

The heart is a muscle _____ (compose) of highly specialized tissue. Because muscles become stronger and more efficient with use, regular exercise _____ (strengthen) the heart, _____ (enable) it to pump more blood with each beat. It can therefore_____ (circulate) blood with fewer beats per minute. A stronger, more efficient heart is better able _____ (meet) the normal and extraordinary demands _____ (impose) by everyday living.

Exercise also _____ (reduce) blood level of triglycerides and _____ (raise) the level of high-density lipoproteins in the blood, thereby_____ (reduce) the risk of cardiovascular disease.

Translation

I. Translate the following sentences into English.

1. 很多心脏病的病因与先天畸形或瓣膜功能障碍有关。

2. 规律合理的体育运动可以增强心脏的泵血功能。

3. 血液在心脏内总是按照固定的路线行进。

4. 心脏病是如此复杂多变，以至于其诊断和治疗都考验着医生的经验和判断力。

Text B

Pulse and Blood Pressure

Meaning of the Pulse

The ventricles pump blood into the arteries regularly about 70 to 80 times a minute. The force of ventricular contraction starts a wave of increased pressure which begins at the heart and travels along the arteries. This wave is called the pulse. It can be felt in the arteries that are relatively close to the surface, particularly if the vessel can be pressed down against a bone. At the wrist the radial artery passes over the bone on the thumb side of the forearm, and the pulse is most commonly obtained here.

Various factors may influence the pulse rate. We will give just a few:

1. The pulse is somewhat faster in smaller people, and usually is slightly faster in women than in men.

2. In a newborn infant the rate may be from 120 to 140 beats per minute. As the child grows, the rate tends to become slower.

3. Muscular activity influences the pulse rate. During sleep the pulse may slow down to 60 a minute. If a person is in good condition, the pulse does not remain rapid despite a continuation of exercise.

4. Emotional disturbances may increase the pulse rate.

5. In many infections the pulse rate increases with the increase in temperature.

6. An excessive amount of secretion from the thyroid gland may cause a rapid pulse.

Blood Pressure and Its Determination

Since the pressure inside the blood vessels varies with the condition of the heart and the arteries as well as with other factors, the measurement of blood pressure together with careful interpretation may prove a valuable guide in the care and evaluation of a person's health. The pressure decreases as the blood flows from arteries into capillaries and finally into veins. Ordinarily, measurements are made of arterial pressure only. The instrument used is called a sphygmomanometer. The two measurements made are of:

1. The systolic pressure, which occurs during heart muscle contraction and averages around 120, expressed in millimeters of mercury.

2. The diastolic pressure, which occurs during relaxation of the heart muscle and average around 80 millimeters of mercury.

The sphygmomanometer is essentially a graduated column of mercury connected to an inflatable

cuff. The cuff is wrapped around the patient's upper arm and is inflated with air until the brachial artery is compressed and the blood flow cut off. Then, listening with a stethoscope, the doctor or nurse slowly lets air out of the cuff until the first pulsations are heard. At this point the pressure in the cuff is equal to the systolic pressure; and this pressure is read off the mercury column. Then, more air is let out until another characteristic sound indicates the point at which the diastolic pressure is to be read off. Considerable practice is required to insure an accurate reading.

Abnormal Blood Pressure

Lower than normal blood pressure is called hypotension. Many apparently healthy persons have systolic blood pressure below 110. The sudden lowering of blood pressure is an important symptom of shock. It may occur also in certain chronic diseases as well as in heart block.

Hypertension, which is high blood pressure, has received a great deal of attention. Often it occurs temporarily as a result of excitement or exertion. It may be persistent in a number of conditions including:

1. Kidney disease and uremia or other toxic conditions.
2. Endocrine disorders such as hyperthyroidism and acromegaly.
3. Artery disease including the so-called hardening of the artery walls.
4. Tumors of the adrenal (suprarenal) medulla.

Although stress has been placed on the systolic blood pressure, in many cases the diastolic pressure is even more important. The condition of small arteries may have more effect on the diastolic pressure. At any rate, the determination of what really constitutes hypertension should be left to the physician. A blood pressure that is normal for one individual may be low for another and too high for a third.

New Words and Expressions

radial /'reɪdɪəl/ *adj.* 辐射状的
continuation /kənˌtɪnjʊ'eɪʃən/ *n.* 继续，连续
secretion /sɪ'kri:ʃən/ *n.* 分泌
thyroid /'θaɪrɒɪd/ *adj.* 甲状腺的
sphygmomanometer /ˌsfɪgməʊmə'nɒmɪtə/ *n.* 血压计
systolic /sɪ'stɒlɪk/ *adj.* 心脏收缩的
mercury /'mɜ:kjʊrɪ/ *n.* [化]汞
diastolic /daɪ'stɒlɪk/ *adj.* 心脏舒张的
graduate /'grædjʊeɪt/ *vt.* 分成等级；标以刻度
inflatable /ɪn'fleɪtəbl/ *adj.* 可膨胀的，可充气的
brachial /'breɪkɪəl/ *adj.* 臂的
pulsation /pʌl'seɪʃən/ *n.* 脉搏
exertion /ɪg'zɜ:ʃən/ *n.* 努力；费力
hyperthyroidism /haɪpə'θaɪrɒɪdɪz(ə)m/ *n.* 甲状腺机能亢进
acromegaly /ˌækrəʊ'megəlɪ/ *n.* 肢端肥大症
adrenal /ə'dri:nl/ *adj.* 肾旁的，肾上腺的
suprarenal /ˌsju:prə'ri:nl/ *adj.* 肾脏上的，肾上腺的
medulla /me'dʌlə/ *n.* （拉丁语）骨髓
systolic pressure 收缩压
diastolic pressure 舒张压

Review and Practice

I. Choose the best answers to the following questions according to the text.

1. The pulse is _____ .
   A. a pumping action of the ventricle
   B. a regular cycle of rhythms about 70 or 80 per minute
   C. a gradually increasing pressure in the arteries
   D. a wave started by the forceful contraction of the heart
2. Which of the following is CORRECT when taking a person's pulse?
   A. Avoiding arteries close to the surface.
   B. Pressing the artery against a bone.
   C. Using both the second and third fingers.
   D. Taking the pulse at different places.
3. Which of the following is NOT mentioned as a factor affecting the pulse rate?
   A. Muscular activities. B. Emotional disturbances.
   C. Age and gender. D. Degenerative disorders.
4. Why should the blood pressure be carefully measured and interpreted?
   A. Because it tells a lot about a person's health conditions.
   B. Because it shows a person's emotional and psychological state.
   C. Because it may increase or decrease quickly and irregularly.
   D. Because it is a major and dependable sign of health or disease.
5. If hypertension occurs temporarily, _____ .
   A. it is probably a sign of the hardening of the artery walls
   B. it is usually the beginning of persistent hypertension
   C. it may be caused by emotional change or overwork
   D. it is still a reason for concern and further examination
6. What does the text imply in the last paragraph?
   A. Hypertension is not a serious problem for some people.
   B. Too much attention has been given to hypertension.
   C. Blood pressure should be taken by a medical professional.
   D. The importance of diastolic pressure is sometimes overlooked.

II. Decide whether each of the following statements is True (T) or False (F) according to the text.

_____ 1. The pulse can be easily touched when one presses down the arteries against the thumb.
_____ 2. A person in good health usually have relatively lower pulse rate than those with diseases.
_____ 3. As the pulse rate may change with various conditions and factors, it is a valuable sign of a person's health.
_____ 4. Normally the diastolic pressure is higher than the systolic pressure for the same person.

III. Translate the following sentences into Chinese.

1. The force of ventricular contraction starts a wave of increased pressure which begins at the heart and travels along the arteries.

2. Since the pressure inside the blood vessels varies with the condition of the heart and the arteries as well as with other factors, the measurement of blood pressure together with careful interpretation may prove a valuable guide in the care and evaluation of a person's health.

3. The cuff is wrapped around the patient's upper arm and is inflated with air until the brachial artery is compressed and the blood flow cut off.

4. Then, more air is let out until another characteristic sound indicates the point at which the diastolic pressure is to be read off.

Word Building

The word element *cardio-* means heart, and from it come the names of the three layers of the heart wall: pericardium, myocardium, and endocardium.

Guess the meaning of the following words from the word elements in them.

cardiovascular, cardioaortic, electrocardiogram, cardiopulmonary, endocarditis, myocardiosis, cardiostenosis (*-stenosis* narrowing), pericardiectomy (*-ectomy* cutting out)

The word element *arterio-* means artery, and *phlebo-* means vein.

Guess the meaning of the following words from the word elements in them.

arteriorrhagia, arteriostenosis, arteriosclerosis (*-sclerosis* hardening), arterionecrosis
phlebitis, phlebogram, phlebothrombosis (*-thrombosis* clotting),
phleboplasty (*-plasty* forming)

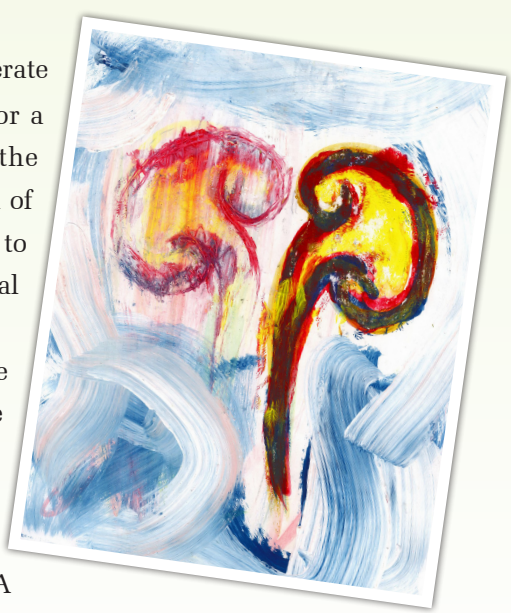
Unit Six

The Kidney's Working Unit And Functioning

Warming-up

In severe kidney disease, when the kidney fails to function properly, waste products normally excreted by the kidney are retained in the body and accumulated in the blood, disturbing the functioning of various organs and tissues. The condition is known as uremia. Now, we can remove the wastes by artificial means. But is it an ideal way to treat a patient with uremia?

When the Kidney Fails



It is easy to take the kidneys for granted: They operate silently, efficiently, and in most people continuously for a lifetime without a glitch. One only need learn about the consequences of kidney failure, however, or meet a victim of this condition, to understand how central the organs are to survival and just how difficult it is to imitate their natural functions.

The kidneys can lose their exquisite ability to cleanse the blood in several ways. Bacteria can contaminate the urinary tract, attacking the kidneys. An autoimmune attack on the kidneys by white blood cells can block and destroy glomeruli. Finally, poisoning by mercury, lead, or certain solvents can damage the kidney tissue. A

person's nephrons are so numerous and so efficient that even if two-thirds of these tubules are destroyed, the individual can still live a fairly normal life. If the number drops to 10 or 20 percent, however, the person can suffer extreme tissue swelling as a result of salt and water retention, as well as a buildup of urea and other metabolic by-products. These can cause the blood to become very acidic and can lead to coma or — if the PH drops below 6.9 — to death.

Fortunately, in the 1950s, biomedical researchers invented an artificial kidney, or *kidney dialysis machine*, which takes over some of the kidney's blood-cleansing functions. When the machine is turned on, waste-laden blood from the patient's artery is routed through a long, porous membrane bathed by a solution much like normal blood plasma. As the blood passes through, the wastes diffuse into the solution. After circulating several times through many meters of tubing and back into the body, the patient's blood is sufficiently free from waste to permit normal activity — at least for a while.

Unfortunately, the artificial kidney has some serious drawbacks. Moreover, the patient's blood must be treated with an anticoagulant so that it does not clot as it passes through the machine, then treated again with a coagulant as it reenters the person's body so that he or she won't bleed too freely. Because of the drug treatments, the artificial kidney can only be used every two or three days, and each session may last from 5 to 10 hours. People with kidney failure are literally captives of the dialysis machine: It extends their life but gobbles much of their time.

Kidney transplants are an alternative to this captivity. Donors are limited to blood relatives or others with closely matching tissue types. And even with this careful screening, the patient may need long-term drug therapy to suppress immune rejection. Clearly, healthy kidneys are nothing to take for granted.

New Words and Expressions

excrete /eks'kri:t/ *vt.* 排泄；分泌
artificial /ˌɑ:tɪ'fɪʃəl/ *adj.* 人造的；人工的
glitch /glɪtʃ/ *n.* 小过失，差错
consequence /'kɒnsɪkwəns/ *n.* 结果
imitate /'ɪmɪteɪt/ *vt.* 模仿
exquisite /'ekskwɪzɪt/ *adj.* 精致的；细腻的
cleanse /klenz/ *vt.* 净化，清洗
autoimmune /ˌɔ:təʊɪ'mju:n/ *adj.* 自身免疫的
glomeruli /glɔ'merjulai/ *n.* 小球，肾小球
lead /li:d/ *n.* 铅
solvent /'sɒlvənt/ *n.* [化]溶剂
nephron /'nefrɒn/ *n.* 肾单位
tubule /'tju:bju:l/ *n.* 小管
retention /rɪ'tenʃən/ *n.* 滞留
buildup /'bɪldˌʌp/ *n.* 集结；累积
coma /'kəʊmə/ *n.* 昏迷

New Words and Expressions

dialysis /daɪ'ælɪsɪs/ *n.* 透析
lade /leɪd/ *v.* 装载
route /ruːt/ *vt.* 按某路线发送；给…规定路线
porous /'pɔːrəs/ *adj.* 能穿透的，能渗透的
drawback /'drɔːˌbæk/ *n.* 缺点
anticoagulant /'æntɪkəʊ'ægjʊlənt/ *n.* 抗凝血剂；阻凝剂
session /'seʃən/ *n.* （进行某活动连续的）一段时间
captive /'kæptɪv/ *adj.* 无法逃离的 *n.* 失去行动自由的人或动物
gobble /'gɒbl/ *vt. & vi.* 狼吞虎咽地吃
urinary tract 泌尿道，尿路

Warming-up Activities

I. Answer the following questions according to the text.

1. What seems to be the main reason that kidneys are often taken for granted?

2. What are some of the causes of the kidney's loss of normal functions?

3. Would the destruction of some nephrons result in serious problems? When can real problems develop?

4. Can the dialysis machine be used every day? Why?

5. People with kidney failure who rely on dialysis for survival are said to be captives of the dialysis machine. Do you think this is a suitable comparison? Why?

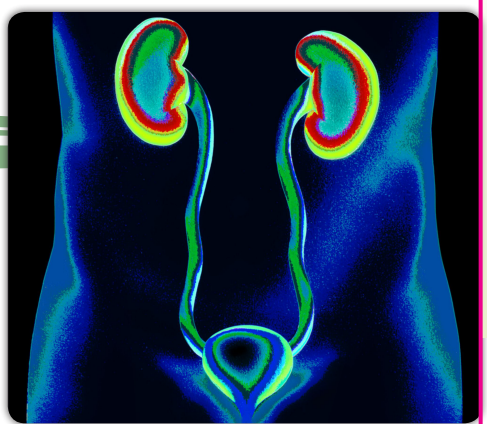
II. Learn the use of idiomatic expressions with the help of a dictionary.

Body

1. His wages are barely enough to ***keep his body and soul together***.
2. She threw herself ***body and soul*** into her work.
3. He'll come into this house ***over my dead body***.
4. The angry workers marched ***in a body*** to the manager's office.

Text A

Kidneys and Body Chemistry



Kidney is a somewhat flattened organ about 10 centimeters long, 5 centimeters wide, and 2.5 centimeters thick. On the inner or medial border there is a notch called the hilum, at which region the artery, the vein and ureter connect with the kidney. The outer or lateral border curves outward, giving the entire organ a bean-shaped appearance.

The kidneys have three main functions. The first is excretion. The use of protein by the body cells (in the form of amino acids) produces, among other waste materials, those containing the chemical element nitrogen; the chief waste product of this category is urea. The urinary system is the specialized mechanism of excretion for this waste material. Certain salts from the blood plasma are also excreted.

A second function of the kidneys is to aid in the maintenance of water balance. The average man takes in about 2,500 cc of water daily. About half of this usually comes from the foods, some of which contain considerable amounts of water, such as fruits, many vegetables, soups and milk. In addition to this, more than a cupful (about 300 cc) of water is formed in the cells when their materials combine with oxygen. On the other hand, water is constantly being lost in a number of ways. About 1,500 cc is lost through the urine each day. Considerable water is lost in fecal material, and every exhalation is accompanied by water loss. Even though the weather may be cool, some moisture is lost in the form of unnoticed perspiration. In spite of this great variation in the amount of water which the body takes in and gives off, the water in the tissues must be maintained at a constant level. The mechanism for accomplishing this is complicated, but the kidneys are an important part of it. It may be noted that the kidneys serve as a sort of “overflow” for water that the body does not need. If, for example, a person deliberately drinks a large amount of water even though he may not feel thirsty, most of the water will very quickly be excreted by the kidneys; and furthermore this water will contain only a small concentration of waste materials.

A third function of the kidneys is to aid in regulating the acid-base balance of the body. Acids are a category of chemical substances which, in the body, are produced by cell metabolism. They may take the form of solids, liquids or gases. Bases, also called alkalies, are another category of chemicals; these have the effect of neutralizing acids (the product of an acid-base reaction is a salt). Certain foods can cause acids or alkalies to form in the body. In order that all the

normal body processes may take place, a certain critical proportion of acids and bases must be maintained at all times — this despite the fact that the person may take in varying quantities of acid-forming and alkaline-producing substances as food. It is just as important for the blood and other tissues that an excess of alkalinity be avoided as it is that too much acidity be prevented. In other words, there must be a balance. Acid substances are constantly being removed from the body in various ways, including the exhalation of carbon dioxide, which serves to remove carbonic acid. Both acid and alkaline substances which may be present in excess are constantly being removed by the kidneys. The kidneys are also able to manufacture ammonia at certain times. Ammonia neutralizes acids, and so we have another example of the kidneys' ability to help maintain the acid-base balance.

New Words and Expressions

medial /'mi:drəl/ *adj.* 中间的
notch /nɒtʃ/ *n.* （V字形的）槽口
hilum /'haɪləm/ *n.* 核，脐
ureter /jʊə'ri:tə/ *n.* 输尿管
lateral /'lætərəl/ *adj.* 侧面的
curve /kɜ:v/ *vi.* 弯曲
exhalation /ˌeksə'leɪʃən/ *n.* 呼出；呼气
perspiration /ˌpɜ:spə'reɪʃən/ *n.* 汗水；出汗
deliberately /dɪ'lɪbərətlɪ/ *adv.* 故意地
neutralize /'nju:trəlaɪz/ *vt.* 中和
alkalies /'ækə'laɪz/ *n.* 碱金属
alkalinity /ˌælkə'lɪnɪtɪ/ *n.* 碱度，碱性
ammonia /'æməʊnɪə/ *n.* 氨
carbonic acid *n.* 碳酸
urinary system 泌尿系统
acid-base balance 酸碱平衡

Notes To The Text

1. The use of protein by the body cells (in the form of amino acids) produces, among other waste materials, those containing the chemical element nitrogen; the chief waste product of this category is urea.
体内细胞以氨基酸的形式利用蛋白质会产生各种废物，其中包括含化学元素氮的废物，这类废物的主要产物为尿素。
句中among other (things) 表示“除了其它(东西、原因、因素等)以外”，直译是“在其它（东西、原因、因素等）之中”，也就是说，下面要具体说的（东西、原因、因素等）只是其中之一。
She is very keen on sport: among other things, she plays tennis twice a week.
她非常喜欢体育，除了其他活动外，她每星期打两次网球。

② In addition to this, more than a cupful (about 300 cc) of water is formed in the cells when their materials combine with oxygen.
除此之外，当细胞物质与氧结合时，超过一杯的水（约为300毫升）会在细胞中形成。
注意代词的指代意义，本句中their意指“细胞的”。

③ It is just as important for the blood and other tissues that an excess of alkalinity be avoided as it is that too much acidity be prevented.
对于血液以及其他组织来说，避免碱过量与避免酸过量同等重要。
本句as ... as结构为等比句结构。另外，本句中还包含表示“建议”类的虚拟语气句型“it is important that ...”，注意that从句部分需要用动词原形或者should+动词原形。
It is important that we (should) learn English well. 我们要学好英语，这点很重要。

Text Comprehension

I. Choose the best answers to the following questions.

1. The kidney has a bean-shaped appearance, _____ .
   A. with two flattened sides
   B. with a notch at its top end
   C. with its outer border curved outward
   D. with a thickness of about 2 inches
2. The function of excreting waste materials by the kidney has much to do with _____ .
   A. the use of amino acids by the body cells
   B. the production of amino acids in the cells
   C. urea found in many kinds of protein food
   D. mineral salts produced by blood plasma
3. How does the kidney aid in the maintenance of water balance?
   A. By regulating the amount of water taken in.
   B. By removing water the body does not need.
   C. By containing water while removing waste materials.
   D. By stopping producing urine when one is thirsty.
4. Which of the following statements is NOT true concerning acids and bases in the body?
   A. Acids are a category of chemical substances produced by cell metabolism.
   B. Acids may take different forms including solids, liquids and gases.
   C. The same food may cause both acids and alkalies to form in the body.
   D. Acids and bases in the body must be in proper proportion at all times.
5. Which of the following is NOT mentioned as a way the body removes excessive acids?
   A. The kidney can produce acid-neutralizing ammonia.

B. The lung can remove acids by exhaling carbon dioxide.
C. The kidney can remove excessive acids and alkalies.
D. Body processes are quickened in the case of high acidity.

6. What does this text mainly deal with?
A. The kidneys as an overflow for water.
B. The main functions of the kidneys.
C. The relationship of kidneys to other organs.
D. The complicated structure of the kidneys.

II. Give brief answers to the following questions.

1. What will happen when one drinks either too much water or too little water?

_____

2. What will happen when acid-base balance is disturbed? What does this fact signify?

_____

Vocabulary

I. Choose the correct word to complete each of the following sentences.

1. _____ is a relative term meaning "above" or "in a higher position"; its opposite, inferior, means "below" or "lower".
A. Medial B. Lateral C. Superior D. Proximal

2. When _____ is accumulated in the blood plasma, a condition called uremia results.
A. urine B. urea C. urinary D. urinal

3. Cough is one of the symptoms that often _____ infections of the upper respiratory tract.
A. accompany B. adjust C. adapt D. accomplish

4. Many routine operations formerly done by hand have been _____ .
A. neutralized B. metabolized C. liquefied D. mechanized

5. Some poisons, when present even in small _____ , can cause degenerative change of the kidney.
A. category B. acidity C. alkalinity D. quantity

II. Choose a proper phrase in the box to complete the following sentences.

in addition	**in order**	**in other words**	**among other things**
in spite of	**in the form of**		

1. In dialysis, the patient's blood is treated with an anticoagulant _____ that it can pass through the machine without clotting.
2. Even in cold winter, some water is lost _____ unnoticed sweat.
3. Each kidney is enclosed in a membranous capsule. _____ there is a circle of fat around the perimeter of the organ.
4. _____ the destruction of quite a number of nephrons, the kidney can still work effectively.
5. Tumors of the kidney have some special characteristics; _____ , they usually grow rather slowly.
6. In the normal individual no problem is posed by losing one kidney; _____ , those who donate a kidney for transplantation do not face a big risk.

Grammar and Structure

I. Rewrite the sentences below by following the models given.

Model:

*Despite the fact that the weather may be coo*l, some moisture is lost in the form of unnoticed perspiration.
Even though the weather may be cool, some moisture is lost in the form of unnoticed perspiration.

1. A person may deliberately drink a large amount of water, despite the fact that he may not feel thirsty.

_____

2. Many of us ignore the advice about healthy diets and regular exercise, despite the fact that we know it to be true.

_____

3. Many people still live a fairly normal life, despite the fact that they have lost one kidney.

_____

Model:

You may note that the kidneys serve as a sort of "overflow" for water that the body does not need.
It may be noted that the kidneys serve as a sort of "overflow" for water that the body does not need.

4. Researchers have proved that most congenital cataracts are not progressive.

_____

5. Some studies have reported that this disorder runs in families.

6. People once thought that overeating played a major role in causing obesity; but they have found that people who do not eat very much may suffer from the problem to as great a degree.

II. Form a short paragraph by following the suggested steps.

Step 1: Match the verb with an object or adverbial:

1. to remove	A. waste products and excess fluid
2. to remove	B. a stable balance
3. to involve	C. highly complex steps
4. to maintain	D. through the urine

Step 2: Put one of the verb phrases in its correct form in a proper sentence:

1. The production of urine _____ of excretion and reabsorption.
2. Most people know that a major function of the kidneys is _____ from the body.
3. This process is necessary _____ of body chemicals.
4. These waste products and excess fluid _____ .

Step 3: Arrange the sentences in their right order to form a paragraph:

Translation

I. Translate the following sentences into English.

1. 对于那些肾功能衰竭的病人来说，根本的解决方案是肾脏移植手术。

2. 适量的饮水对于维护肾功能很有帮助。

3. 由于这种药物主要靠肾脏排泄，因此肾功能障碍者不宜服用。

4. 只有当血液中二氧化碳浓度达到某一水平之前，人才能完全屏住呼吸。

Text B

Chronic Kidney Disease

Chronic kidney disease is defined as having some type of kidney abnormality or "marker" such as protein in the urine, and having decreased kidney function for three months or longer.

There are many causes of chronic kidney disease. The kidneys may be affected by diseases such as diabetes and high blood pressure. Some kidney conditions are inherited (run in families). Others are congenital; that is, individuals may be born with an abnormality that can affect their kidneys. The following are some of the most common types and causes of kidney damage.

1. Diabetes is a disease in which your body does not make enough insulin or cannot use normal amounts of insulin properly. This results in a high blood sugar level, which can cause problems in many parts of your body. Diabetes is the leading cause of kidney disease.

2. High blood pressure (also known as hypertension) is another common cause of kidney disease and other complications such as heart attacks and strokes. High blood pressure occurs when the force of blood against your artery walls increases. When high blood pressure is controlled, the risk of complications such as chronic kidney disease is decreased.

3. Glomerulonephritis is a disease that causes inflammation of the kidney's tiny filtering units called the glomeruli. Glomerulonephritis may happen suddenly, for example, after a strep throat, and the individual may get well again. However, the disease may develop slowly over several years and it may cause progressive loss of kidney function.

4. Polycystic kidney disease is the most common inherited kidney disease. It is characterized by the formation of kidney cysts that enlarge over time and may cause serious kidney damage and even kidney failure.

5. Kidney stones are very common, and when they pass, they may cause severe pain. There are many possible causes of kidney stones, including an inherited disorder that causes too much calcium to be absorbed from foods and urinary tract infections or obstructions. Sometimes, medications and diet can help to prevent recurrent stone formation. In cases where stones are too large to pass, treatments may be done to remove the stones or break them down into small pieces that can pass out of the body.

6. Urinary tract infections occur when germs enter the urinary tract and cause symptoms such as pain and/or burning during urination and more frequent need to urinate. These infections

most often affect the bladder, but they sometimes spread to the kidneys, and they may cause fever and pain in your back.

7. Congenital diseases may also affect the kidneys. These usually involve some problem that occurs in the urinary tract when a baby is developing in its mother's womb. One of the most common occurs when a valve-like mechanism between the bladder and ureter (urine tube) fails to work properly and allows urine to back up (reflux) to the kidneys, causing infections and possible kidney damage.

8. Drugs and toxins can also cause kidney problems. Using large numbers of over-the-counter pain relievers for a long time may be harmful to the kidneys. Certain other medications, toxins, pesticides and "street" drugs such as heroin and crack can also cause kidney damage.

New Words and Expressions

inherit /ɪn'herɪt/ *vt.* 经遗传获得
congenital /kɒn'dʒenɪtl/ *adj.* 先天的，天生的
insulin /'ɪnsjʊlɪn/ *n.* 胰岛素
glomerulonephritis /glə,merjʊ,ləʊnef'raɪtɪs/ *n.* 血管球性肾炎
inflammation /,ɪnflə'meɪʃən/ *n.* 炎症
urinate /'jʊərɪneɪt/ *vi.* 排尿
womb /wu:m/ *n.* 子宫
strep throat 脓毒性咽喉炎

Review and Practice

I. Choose the best answers to the following questions according to the text.

1. What does the word "marker" in the first paragraph refer to?
   A. Normal components of the urine.
   B. High concentrations of certain metabolites.
   C. Substances that do not normally appear in the urine.
   D. Symptoms that directly point to abnormality of the kidney.
2. Which of the following diseases may NOT be induced by hypertension?
   A. Kidney disease. B. Heart attacks. C. Strokes. D. Diabetes.
3. According to the text, the main function of the glomeruli is _____.
   A. filtration B. secretion C. reabsorption D. elimination
4. According to the text, large kidney stones are usually treated with _____.
   A. stone-dissolving medications B. strict diet regulation
   C. surgical operation D. clinical observation

5. According to the text, which of the following statements is NOT true?
   A. Long-term use of pain relievers may cause kidney damage.
   B. Any OTC medications can be poisonous to the kidney.
   C. "Street" drugs such as heroin are not safe for the kidney.
   D. Careful use of medications is necessary to prevent kidney problems.

II. Decide whether each of the following statements is True (T) or False (F) according to the text.

_____ 1. Chronic kidney disease is defined as having such a "marker" as protein in the urine.
_____ 2. The better the high blood pressure is controlled, the lower the risk of complications such as chronic kidney disease.
_____ 3. The inherited disorder of absorbing too much calcium from foods may cause kidney stones.
_____ 4. Urinary tract infections cause symptoms such as pain and/or burning during urination and more frequent need to urinate.
_____ 5. Both urinary tract infections in the bladder and kidney stones may cause pain in the back.

III. Translate the following sentences into Chinese.

1. Diabetes is a disease in which your body does not make enough insulin or cannot use normal amounts of insulin properly.

2. It is characterized by the formation of kidney cysts that enlarge over time and may cause serious kidney damage and even kidney failure.

3. There are many possible causes of kidney stones, including an inherited disorder that causes too much calcium to be absorbed from foods and urinary tract infections or obstructions.

4. These infections most often affect the bladder, but they sometimes spread to the kidneys, and they may cause fever and pain in your back.

Word Building

The commonly used word elements concerning the urinary system are *nephro-* and *uro-* (*urino-*); *nephro-* means kidney, and *uro-* (*urino*) means urine. *–uria*, which appears at the end of a word, means the condition of urine.

Guess the meaning of the following words from the word elements in them.

nephritis nephrocentesis nephrectomy nephromegaly (*-megaly* largeness)
uremia urocystitis choluria hematuria glucosuria
proteinuria

Here are several more word elements referring to some pathological conditions.

-rhagia (bleeding)	laryngorrhagia	encephalorrhagia
-lithiasis (stone formation)	hepatolithiasis	enterolithiasis
-ptosis (a falling or dropping of an organ)	gastroptosis	nephroptosis
-ectopia (displacement)	splenectapia	metrectopia

Unit seven

The Most Versatile Chemical Laboratory In The Body

Warming-up

Martha, a usually energetic and tireless nurse, suddenly shows some typical signs of hepatitis, including the presence of jaundice and loss of appetite. She feels weak and nauseated. But is it really hepatitis? How can the doctor prove it?

Blood Test for Confirming a Diagnosis

As a floor nurse at a major hospital, Martha depended on her boundless supply of energy. When a strange fatigue set in, however, and when the whites of her eyes showed a yellowish color, her upper abdomen began to hurt, and she grew nauseated, she was certain that she had contracted something serious and went to see her own doctor.

To the physician, the jaundice suggested viral hepatitis, a disease in which a virus attacks liver cells. When aged red blood cells break down, they produce an orange-yellow pigment called bilirubin. Now, a healthy liver can pick up the bilirubin and secrete it into the intestines for elimination from the body. In a diseased liver, however, pigment breakdown is disrupted, and the yellowish substance builds up in the skin and eyes.

To test her suspected diagnosis of viral hepatitis, Martha's doctor drew some of her patient's blood and sent it to a medical laboratory for a chem screen. This is an analysis of

ions, small biological molecules, and enzymes found in the blood. If the person is healthy, body mechanisms keep the quantity of each substance within a normal range of values. But if an illness interferes with these mechanisms, one or more of the substances will appear in excessive or scanty quantities.

For example, a healthy person has 0.1~1.2 mg of bilirubin per 100 ml of blood, but Martha had 3.6 mg, or three times more than the normal upper limit. She also had about 70 times the normal levels of certain enzymes. These enzymes appeared in her blood because the liver cells, which normally store the enzymes, were being broken down.

This particular pattern on the chem screen indeed indicates liver disease, and in combination with the other clues — jaundice, tender abdomen, fatigue, nausea, and Martha's exposure to patients — the doctor was able to confirm a diagnosis of viral hepatitis. Modern medicine as yet has no effective drugs for this condition, but Martha's physician prescribed bed rest and fluids and within a few weeks, Martha's blood chemistry — and her old energy level — returned to normal.

New Words and Expressions

hepatitis /ˌhepə'taɪtɪs/ *n.* 肝炎
jaundice /'dʒɔ:ndɪs/ *n.* 黄疸病
appetite /'æpɪtaɪt/ *n.* 食欲
nauseate /'nɔ:sɪeɪt/ *vt.* 使恶心，作呕
boundless /'baʊndlɪs/ *adj.* 无限的；无穷的
fatigue /fə'ti:g/ *n.* 疲劳，疲乏
contract /'kɒntrækt/ *vt. & vi.* 染上（恶习，疾病等）；缩小，紧缩
pigment /'pɪgmənt/ *n.* 色素
bilirubin /ˌbɪlɪ'ru:bɪn/ *n.* 胆红素
secrete /sɪ'kri:t/ *vt.* 分泌
enzyme /'enzaɪm/ [生化]酶
scanty /'skæntɪ/ *adj.* （大小或数量）不足的
floor nurse 病房护士，非急救室护士
tender abdomen 腹部压痛

Warming-up Activities

I. Answer the following questions according to the text.

1. When was Martha sure that she had contracted something serious?

2. Can you explain how jaundice occurs in viral hepatitis?

3. On what did the doctor base her diagnosis of viral hepatitis?

4 What was the possible cause of Martha contracting the disease?

5 What was the doctor's prescription for Martha's condition?

II. Learn the use of idiomatic expressions with the help of a dictionary.

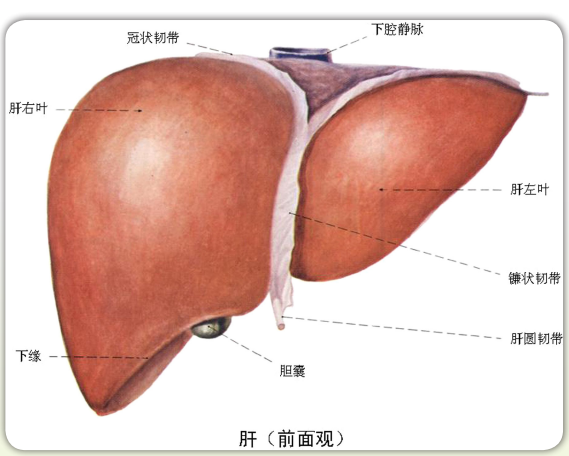
Eye

1. Children do not always ***see eye to eye with*** their parents.
2. It is foolish to ***close/shut your eyes to*** the effect of air pollution.
3. I can't come out tonight. I'***m up to my eyes in*** schoolwork.
4. Will you ***keep an eye on*** things here until I get back?

Text A

Liver and Its Diseases

Liver is a large and important gland in man and all animals with backbones. In man, the liver is the largest glandular organ of the body. It weighs from 3 to 4 pounds, and is a soft, dark red or chocolate-colored mass. The liver lies mainly on the right side of the abdominal cavity. Its upper surface curves inward and fits close to the diaphragm. The liver is flat and irregular below, and thicker behind than in front. Its lower surface touches the intestines and the right kidney. Five ligaments hold the liver in place. Grooves, or fissures, divide it into four lobes. The two principal lobes are on the underside. The right one is much larger than the left.



肝（前面观）

Blood is carried to the liver through the hepatic artery and portal vein. The liver manufactures a digestive fluid called bile. This is stored in the gall bladder, a pear-shaped sac below the liver.

Functions of the Liver

The liver is an extremely complicated organ and has many functions. It is the most versatile

chemical laboratory in the body and is a vital organ. Death occurs in 8 to 24 hours after the liver stops functioning. But the liver has a remarkable power to grow new cells. If it did not, liver diseases would cause more deaths.

Glycogen. The liver receives blood from the stomach and intestines through the portal vein. In the liver, the vein divides into a network of capillaries. As it passes through the liver, the blood is freed of its waste matter and poisons. The liver cells also remove some sugar from the blood and change it into a kind of animal starch called glycogen. Liver cells store glycogen to be given out again as sugar when the blood needs it.

Vitamins, Minerals, and Proteins. The liver stores vitamins and minerals. It stores vitamins A and D and those of the B-complex group. It contains vitamin B12, required for the normal production of the red blood cells and the prevention of pernicious anemia. The liver makes many blood proteins. The chief ones are albumin, globulin, and fibrinogen. Albumin decreases the ability of the blood to flow through capillary walls and tends to prevent edema. The globulin part of blood plasma contains immune bodies that provide resistance to disease. When the liver does not produce enough globulin, a person lacks resistance to infectious disease. Fibrinogen makes the blood clot and prevents extensive bleeding.

Bile. Another function of the liver is to manufacture bile. This thick, greenish or yellow fluid is poured into the small intestine, where it aids digestion.

Urea. One of the most important functions of the liver is to form urea, a nitrogen substance derived from proteins in food. Digestion breaks down the protein substances in food and the blood stream carries them into the liver. Here urea forms. The liver releases urea into the blood stream, which carries it to the kidneys. The kidneys excrete the urea and it leaves the body in urine.

Diseases of the Liver

Because the liver destroys various parasites and poisons brought into the body, it often becomes diseased itself. That is why persons who have suffered from malaria, dysentery, and other germ diseases, or have been poisoned by chemicals may have liver disease.

Jaundice. The liver may be damaged so that it does not excrete bile pigments into the small intestine. The bile pigments may then back up into the blood stream, causing a type of jaundice. When a person has jaundice, his skin and other tissues turn yellow and he cannot completely digest his food.

Cirrhosis of the liver is another serious disease. In this condition, the connective tissue first thickens, then shrinks, causing the liver cell to waste away. The whole liver may become hard, yellow, gritty, lumpy, and shriveled. Alcohol irritates liver tissue, and one form of cirrhosis affects people who drink too much alcohol. The disease also may result from certain infections, from poisons, or from a diet that contains too much fat and not enough protein. A lack of B-complex vitamins also makes a person likely to get cirrhosis.

Infections of the liver often cause the organ to become abscessed. One of the most serious kinds of abscesses is that resulting from amebic dysentery, a bowel infection. Certain drugs and chemicals are harmful to the liver.

New Words and Expressions

diaphragm /'daɪəfræm/ *n.* 横隔膜
ligament /'lɪgəmənt/ *n.* 韧带
groove /gru:v/ *n.* 沟，槽
fissure /'fɪʃə/ *n.* 狭长裂缝或裂隙
lobe /ləʊb/ *n.* （肝）叶
digestive /daɪ'dʒestɪv/ *adj.* 消化的；助消化的
bile /baɪl/ *n.* 胆汁
versatile /'vɜ:sətaɪl/ *adj.* 多用途的；多功能的
glycogen /'glaɪkəʊdʒen/ *n.* 肝糖
starch /sta:tʃ/ *n.* 淀粉
pernicious /pɜ:'nɪʃəs/ *adj.* 恶性的，致命的
albumin /æl'bjʊmɪn/ *n.* 清蛋白，白蛋白
globulin /'glɒbjʊlɪn/ *n.* 球蛋白
edema /i:'di:mə/ *n.* 水肿
urea /'jʊərɪə/ *n.* 尿素
dysentery /'dɪsəntrɪ/ *n.* 痢疾
cirrhosis /sɪ'rəʊsɪs/ *n.* 肝硬化
gritty /'grɪtɪ/ *adj.* 多沙的，含砂的
lumpy /'lʌmpɪ/ *adj.* 粗糙的
shrivel /'ʃrɪvl/ *vt. & vi.* 皱缩
glandular organ 腺器官，腺体
hepatic artery 肝动脉
portal vein 门静脉
gall bladder 胆囊
connective tissue 结缔组织
amebic dysentery 阿米巴痢疾

Notes To The Text

1. Albumin decreases the ability of the blood to flow through capillary walls and tends to prevent edema.
白蛋白会降低血液穿透毛细血管壁的能力，有助于防止出现水肿。
本句中the ability of the blood to flow through capillary walls为名词词组，相当于the blood's ability to flow through capillary walls。

2. Alcohol irritates liver tissue, and one form of cirrhosis affects people who drink too much alcohol.
酒精会损伤肝组织，肝硬化常发现于饮酒过度的人群中。

Text Comprehension

I. Choose the best answers to the following questions.

1. Which of the following is NOT a correct descriptions of the appearance of the liver?
A. It is a soft, dark red or chocolate-colored mass.
B. Its upper surface curves inward and fits close to the diaphragm.
C. It is flat and irregular below, and thicker behind than in front.
D. Its right lobe is much smaller than the left.

2. The liver forms or manufactures all of the following EXCEPT _____ .
   A. proteins B. vitamins C. bile D. urea
3. The text suggests that if there is a lack of albumin, a person may suffer from _____ .
   A. generalized edema B. extensive bleeding
   C. mild indigestion D. severe infection
4. What role does the liver play in the formation of urea?
   A. Removing urea from the food. B. Forming and releasing urea.
   C. Carrying urea to the kidneys. D. None of the Above.
5. Why is it that the liver often becomes diseased?
   A. Harmful substances or microorganisms are in direct contact with the liver.
   B. The liver is made up of delicate tissues incapable of self-renewal.
   C. Some chemicals present in our daily life are especially toxic to the liver.
   D. Viral diseases affect the liver far more seriously than other organs.
6. What is the major cause of jaundice?
   A. The liver produces too much bile pigments.
   B. The liver does not properly excrete bile pigments.
   C. The patient has a problem of digesting his food.
   D. The patient has a problem involving circulation.

II. Explain briefly the cirrhosis of the liver.

1. The appearance of the affected liver.

   _____

2. The main causes of the condition.

   _____

Vocabulary

I. Fill in the blanks with the proper form of the words given.

free	**versatile**	**contain**	**extensive**
release	**excrete**	**derive**	**shrivel**

1. The _____ skin on the neck revealed her age, although she was very much made up.
2. The chemical _____ from the factory is poisonous, which has caused an increased rate of cancer in the village nearby.
3. The job _____ him from financial dependence on his parents.
4. It is of great hope that a specific medicine for breast cancer can be _____ from this kind of herb by the new technology.

5. The _____ repairs to the highway are causing serious traffic problems.
6. The main function of the kidney is to _____ wastes from the body.
7. She is told not to drink anything _____ alcohol.
8. Blue jeans are very _____ trousers that can be worn in all seasons and with all kinds of outfits.

II. Choose the correct word or expression that fits the context.

One of the most common diseases _____1_____ (related/responded) to abuse of alcohol is cirrhosis of the liver, the last stage of liver disease. _____2_____ (On the basis/As a result) of heavy drinking, the liver begins to fill with fat. If there is not _____3_____ (sufficient/efficient) time between drinking episodes, the fat cannot be _____4_____ (transported/transformed) away to storage sites, and the fat-filled liver cells stop functioning. Continued drinking can cause a further stage of liver _____5_____ (disintegration/deterioration) called fibrosis in which the damaged area of the liver _____6_____ (develops/destroys) fibrous scar tissue. Cell function in the liver can be _____7_____(averagely/partially) restored at this stage with proper _____8_____ (function/nutrition) and staying away from alcohol. If the person continues to drink, cirrhosis _____9_____ (results/produces). At this point, the liver cells die, harden, and turn orange, and the damage is _____10_____ (temporary/permanent).

Grammar and Structure

I. Complete the sentences below by following the model given.

The subjunctive mood is used in the following sentence to refer to an unlikely or impossible situation.

Model:

If the liver (did not) have a remarkable power to grow new cells, liver diseases (would) cause more deaths.

1. If there _____ (be) no platelets in the blood, we _____ (not last) very long because the slightest cut would prove fatal.
2. If cancer _____ (be) easy to detect at an early stage, it _____ (not be) the problem that it is.
3. Many common children's diseases _____ (not occur) if all parents _____ (know) how to protect their children against them.
4. If all infants _____ (breast-feed), they _____ (be) a lot more healthy and less likely to be malnourished.

II. Complete the sentences below by following the model given.

Model:

It contains vitamin B12, *which is required* for the normal production of the red blood cells and the prevention of pernicious anemia.
It contains vitamin B12, *required* for the normal production of the red blood cells and the prevention of pernicious anemia.

1. The pancreas, which is called the "salivary gland of the abdomen," secretes pancreatic juice to aid the digestive process.

2. Pancreatic juice, which is released to the duodenum, contains enzymes needed to digest all kinds of food.

3. Glycogen, which is formed and stored in the liver and muscles, is a tasteless, odorless white powder.

4. Each adrenal gland, which is shaped like a hat, consists of an outer layer and a central medulla.

Translation

I. Translate the following sentences into English.

1. 肝脏位于右上腹。

2. 肝功能检查在许多疾病的诊断中意义重大。

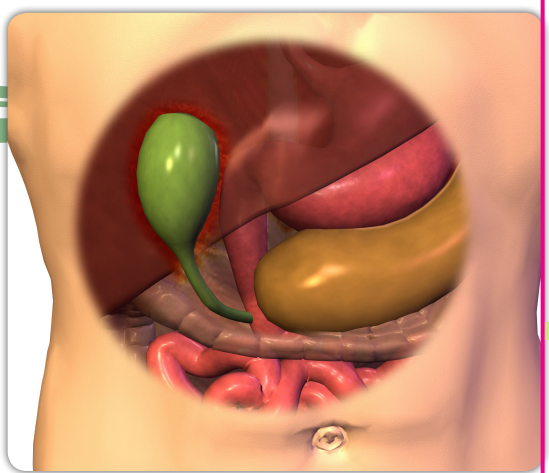
3. 肿瘤侵犯了门静脉，导致了其肝功能障碍。

4. 平衡饮食，合理作息对肝硬化患者很重要。

5. 对大多数人来说，胆囊是依附在肝脏下面的。

Text B

Gallbladder



The gallbladder is a muscular sac that serves as a storage pouch for bile. While the liver may manufacture bile continuously, the need for it is likely to arise only a few times a day. Consequently, bile from the liver flows into the liver ducts and then up through the duct connected with the gallbladder. On the occasion when the semiliquid food mass (chime) enters the duodenum, the gallbladder squeezes bile into the small bowel.

Gallbladder disease, also known as cholecystitis, occurs when the gallbladder has been repeatedly irritated by chemicals, infection, or overuse, thus reducing its ability to release bile for the digestion of fats. Usually, gallstones consisting of calcium, cholesterol, and other minerals form in the gallbladder itself. When the patient eats foods that are high in fats, the gallbladder contracts to release bile, which is necessary for fat digestion; these contractions in turn cause pressure on the stone formations. One of the characteristic symptoms of gallbladder disease is acute pain in the upper right portion of the abdomen after eating fatty foods. This pain may feel like a heart attack or an ulcer attack and is often accompanied by nausea.

Who gets gallbladder disease? The old wise phrase about the “five f’s” of risk factors frequently holds true. Anyone who is ‘female, fat, fair, forty, and flatulent’ (prone to pass gas) appears to be at increased risk. However, people who don’t fit this picture also get the disease.

Not all gallstones cause acute pain. In fact, small stones that pass through one of the bile ducts and become lodged may be more painful than gallstones that are the size of golf balls. Many people find out that they have gallstones only after undergoing diagnostic X-rays to rule out other conditions. The absence of symptoms is significant because gallstones are considered to be a predisposing factor for gallbladder cancer. In fact, gallstones are present in 75 percent of all gallbladder cancers.

Current treatment of gallbladder disease usually involves medication to reduce irritation, restriction of fat consumption, and surgery to remove the gallstones themselves. New medications designed to dissolve small stones are currently being used in some patients. In addition, a new technique known as lithotripsy is being used, in which small stones are broken up using a series of noninvasive shock waves.

New Words and Expressions

pouch /paʊtʃ/ *n.* 小袋
duct /dʌkt/ *n.* 管，导管
chime /tʃaɪm/ *n.* 食糜（同chyme）
duodenum /ˌdjuːəʊˈdiːnəm/ *n.* 十二指肠
cholecystitis /ˌkɒlɪsɪsˈtaɪtɪs/ *n.* 胆囊炎
gallstone /ˈgɔːlstəʊn/ *n.* 胆（结）石
prone /prəʊn/ *adj.* 易于…的；有…倾向的
flatulent /ˈflætjʊlənt/ *adj.* 引起肠胃气胀的；肠胃气胀的
predispose /ˈpriːdɪsˈpəʊz/ *vt.* 使易于患（病）
lithotripsy /ˈlaɪθəʊtrɪpsɪ/ *n.* 震波碎石

Review and Practice

I. Choose the best answers to the following questions according to the text.

1. We can learn from the text that _____ .
   A. bile is made by the liver when food is ingested
   B. bile is stored in a muscular sac called the gallbladder
   C. bile from the liver flows directly into the duodenum
   D. bile is squeezed into the intestine many times a day
2. Which of the following statements about pain in gallbladder diseases is NOT true?
   A. It is chronic and dull.
   B. It is located in the upper right abdomen.
   C. It feels as if a heart attack were going to occur.
   D. It may follow the ingestion of a fatty diet.
3. Which of the following may influence the development of gallbladder disease?
   A. A person's gender and age.
   B. A person's size and height.
   C. A person's habits and lifestyle.
   D. A person's tendency to eat or avoid certain food.
4. Which of the following statements about gallbladder stones is NOT true?
   A. Persons with gallstones are more likely to develop gallbladder cancer.
   B. Large stones in gallbladder may or may not cause acute pain.
   C. Small gallstones seldom cause pain when moving through the ducts.
   D. Persons with gallstones may suffer acute pain after eating fatty diet.
5. Which of the following is NOT an option currently available for the treatment of gallbladder disease?
   A. Reduction of fatty food in the diet.
   B. Administration of medicines for decreasing irritation.
   C. Surgical means including the removal of gallstones.
   D. Use of ultrasonic device for the treatment of infections.

II. Decide whether each of the following statements is True (T) or False (F) according to the text.

1. The gallbladder is an organ specially for bile storage.
2. The bile from the liver is capable of digesting fats in the gallbladder.
3. Cholecystitis refers to infection in the gallbladder caused by various conditions.
4. When a person eats lots of fat, his gallbladder will contract more strongly to release more bile.
5. Patients with small gallstones do not necessarily need surgery.

III. Translate the following sentences into Chinese.

1. While the liver may manufacture bile continuously, the need for it is likely to arise only a few times a day.

2. On the occasion when the semiliquid food mass (chime) enters the duodenum, the gallbladder squeezes bile into the small bowel.

3. When the patient eats foods that are high in fats, the gallbladder contracts to release bile, which is necessary for fat digestion; these contractions in turn cause pressure on the stone formations.

4. The absence of symptoms is significant because gallstones are considered to be a predisposing factor for gallbladder cancer.

Word Building

The word element *hepato-* means liver, and *cholecysto-* means gall bladder.

Guess the meaning of the following words from the word elements in them.

hepatitis hepatogenic hepatalgia hepatectomy hepatocirrhosis
cholecystitis cholecystogram cholecystotomy cholecystectomy
cholecystolithiasis (lithiasis forming of stone)

You can probably guess cholecysto- itself contains two word elements chole- meaning bile, and cyst- meaning bladder (esp. urinary bladder).

chole- bile	cholesterol	cholemia	cholemesis(-emesis vomiting)
lipo- fat	lipofibroma	lipopenia	hyperlipemia
cyst- bladder	cystitomy	cystolith	cystography

Unit Eight

Essential Facts About Your Stomach

Warming-up

When it comes to gaining weight, the genes you inherited from your ancestors may be more to blame that what you eat or what your parents fed you as a child. Recent studies seem to confirm what many people have long suspected: People can eat identical meals and some will gain more weight than others. So, what is the reason?

Fat Cells, Set Point, and Weight Loss

Despite their best efforts, fully 95 percent of all people who diet regain every bit of weight they lose. Why is it so difficult to lose weight and keep it off? Researchers have begun to investigate the possibility that people have a fixed set point, a level of fat storage and body weight that is genetically determined and difficult — but not impossible — to alter.

The theory suggests that some people have naturally high set points (above ideal weight) while others have low ones (at or below ideal weight) and that the set point is based on the number and size of fat storage cells. Individuals vary in the number of fat cells their bodies contain, and fat cells in humans are much more numerous than in most of other mammals.

Once gained, fat cells appear never to be lost; they merely increase or decrease in size by storing more or less fat, depending on dietary excesses. Significantly, a person's fat cells tend to remain a given size and to return to that original size soon after a diet ends. Fat cells act as if they had a mind of their own, and in fact, they do appear to communicate with the brain. They seem to signal any drop in lipid stores, trigger increased appetite and eating behavior to compensate, and start a change in metabolic rate so that the body uses its calories more efficiently — all as if to defend the fat cell's genetically determined size.

In obese people, fat-shuttling enzymes may be overactive and may store fat molecules that would be burned for energy in naturally thin people. Research also suggests that "yo-yo" weight loss and gain from one failed diet after another may actually train the body to cling to every calorie, making it harder and harder to lose weight each time. Finally, it appears that the set point can be raised by the smell or taste of fatty food, an evolutionary adaptation, perhaps, to allow animals to take advantage of energy-rich resources when they find them.

Given this discouraging picture, how can one lower the set point and thus reduce the size of fat cells and with it the weight of the body? Evidence suggests that a moderate reduction in total calories (especially from lipids and sugars) is a beginning, but that dieting must be accompanied by a consistent increase in physical activity. This seems to turn up the metabolic rate so that the body burns more calories — and not just during exercise sessions, but for all the hours at rest between bouts of exertion. Exercise decreases fat tissue and increases muscle mass; thus, the body looks and feels trimmer. Finally, moderate daily exercise reduces the appetite. Considering all these health benefits, regular exercise (four to five sessions per week) is probably the major reason why people who jog, swim, bicycle, or aerobic dance regularly find it easier to control their appetites and to maintain their weights at lower levels — that is, to lower their set points.

New Words and Expressions

identical /aɪ'dentɪkəl/ *adj.* 同一的；相同的
alter /'ɔ:ltə/ *vt.* 改变
mammal /'mæməl/ *n.* 哺乳动物
dietary /'daɪətərɪ/ *adj.* 饮食的
compensate /'kɒmpənseɪt/ *vt.* 补偿
obese /əʊ'bi:s/ *adj.* 肥胖的
yo-yo /'jəujəu/ *adj.* 上下起落的；摇摆不定的
cling /klɪŋ/ *vi.* 抓紧或抱住
evolutionary /ˌi:və'lu:ʃənərɪ/ *adj.* 进化的
moderate /'mɒdərɪt/ *adj.* 有节制的；适度的
aerobic /ˌeɪə'rəʊbɪk/ *adj.* 有氧的；有氧健身的
have a mind of one's own 有自己的主见
one after another 依次地；接二连三地

Warming-up Activities

I. Answer the following questions according to the text.

1. What is the set point mentioned in the text?
2. Why is it so difficult for a person on a diet to lose weight?
3. What does the phrase 'dietary excesses' in the third paragraph mean?
4. How is it that a person's fat cells tend to remain a given size?
5. What are the possible benefits that regular physical exercises may bring about?

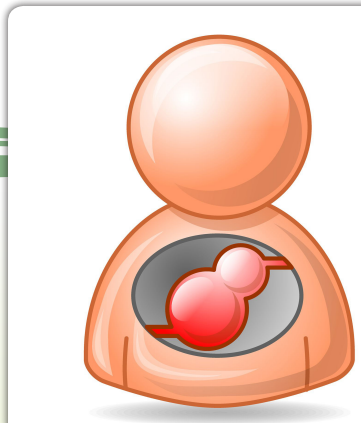
II. Learn the use of idiomatic expressions with the help of a dictionary.

Mouth

1. The smell of the food ***made my mouth water***.
2. Will you stop ***putting words into my mouth*** — I never said I disliked the job.
3. You look a little ***down in the mouth***.
4. You can tell him anything; he knows how to ***keep his mouth shut***.

Text A

Stomach and Its Disorders



The Stomach and Its Working

The stomach is actually an enlarged section of the alimentary tube. It is shaped somewhat like a gourd, and both ends of it are guarded by valves which normally permit the text of substances in only one direction. The first of these is the cardiac valve, located between the

esophagus and the stomach. We frequently are aware of the existence of this valve; sometimes it does not relax as it should, and then there is a feeling of having a place one can't swallow past. At the distal or far end of the stomach, connecting it with the small intestine, is the other valve called the pyloric sphincter. The valve is especially important in that it determines the length of time in which the food remains in the stomach.

The stomach, so often abused and misunderstood, is both a storage pouch and a churn. If the stomach is empty, there will be many folds in the lining. These folds disappear as the stomach fills (it may be stretched so that it holds a half gallon of food and liquid). When the stomach is filled, the pyloric sphincter closes and retains the contents until the food has been mixed with certain digestive juices collectively called gastric juice. These juices are secretions given out by tiny glands in the stomach wall. The mixture of gastric juice and food is known as chyme.

Stomach Disorders

A burning sensation in the region of the esophagus and stomach is popularly known as heartburn. It may be caused by the sudden intake of a large amount of fluid with excessive stretching of the lower part of the esophagus. It is also a common complaint in stomach irritation due to excessive food intake or food poisoning. It is not due to overacidity of the stomach contents, since it is often found in cases of abnormally low acidity.

Nausea is a feeling of illness that may follow distension or irritation of the lower esophagus or of the stomach as the result of various nervous and mechanical factors. It may be a symptom of interference with the normal forward peristaltic motion of the stomach and intestine and thus may be followed by vomiting. Vomiting refers to the expulsion of stomach (and sometimes bowel) contents through the mouth by reverse peristalsis. The contraction of the abdominal wall muscles forcibly empties the stomach. Vomiting is frequently caused by overeating, by irritants that may be found in food or drink and by a variety of generalized diseases.

About a fourth of all cancers involve the stomach, and to this type of cancer males are somewhat more susceptible than females. The growth nearly always develops from the epithelial or mucosal lining of the stomach and is often of the type called adenocarcinoma. Sometimes the victim has suffered long-standing indigestion but has failed to consult a physician until the growth has spread to other organs such as the liver, in which there may be secondary growths by the dozen. Persistent indigestion is one of the important warning signs of cancer of the stomach.

An ulcer is defined as an area of the skin or mucous membrane in which the tissues are gradually disintegrating and the substance is being lost. A peptic ulcer is found on the mucous membrane of the esophagus, the stomach or the duodenum, the first part of the small intestine. It may be the result of the acid action of the gastric juice. Peptic ulcers are found most frequently in people between the ages of 30 and 45. The intestinal (or duodenal) type of ulcer is much more common in males.

New Words and Expressions

alimentary /ælɪ'mentərɪ/ *adj.* 食物的，营养的
gourd /gʊəd/ *n.* 葫芦
cardiac /'kɑ:dɪæk/ *adj.* （胃的）贲门的；心脏的
esophagus /i:'sɒfəgəs/ *n.* 食管
distal /'dɪstəl/ *adj.* 末梢的
pyloric /paɪ'lɔ:rɪk/ *adj.* 幽门的
sphincter /'sfɪŋktə/ *n.* 括约肌
churn /tʃɜ:n/ *n.* 搅乳桶
fold /fəʊld/ *n.* 折痕
gastric /'gæstrɪk/ *adj.* 胃的
heartburn /'hɑ:tbɜ:n/ *n.* 胃灼热
distension /dɪs'tenʃən/ *n.* 扩张，膨胀
peristaltic /ˌperɪ'stæltɪk/ *adj.* 蠕动的
vomit /'vɒmɪt/ *vt. & vi.* 呕吐
expulsion /ɪks'pʌlʃən/ *n.* 排出；喷出
irritant /'ɪrɪtənt/ *n.* [医]刺激物，刺激剂
adenocarcinoma /'ædɪnəʊˌkɑ:sɪ'nəʊmə/ *n.* 腺癌
peptic ulcer 胃溃疡

Notes To The Text

1. We frequently are aware of the existence of this valve; sometimes it does not relax as it should, and then there is a feeling of having a place one can't swallow past.
我们经常能感知贲门瓣的存在；有时候贲门瓣该松弛时没有松弛，这时我们就会感觉到有一部位吞咽无法通过。
注意上句中there is a feeling of having a place one can't swallow past，其中one can't swallow past作定语，修饰名词place。另外，there is a feeling of ... 意为“（我们）感觉到…”。

2. Sometimes the victim has suffered long-standing indigestion but has failed to consult a physician until the growth has spread to other organs such as the liver, in which there may be secondary growths by the dozen.
有时候病人长期患有消化不良，但未及时就医，等到看病时，癌细胞已经扩散至其他器官，例如肝脏，在那里已有大量转移灶。
句中短语by the dozen，由于汉语不用dozen这种计量单位，所以一般译为“十来个”，也可根据上下文用大约数来表达，如上句中译为“大量”。
There are dozens of such examples. 有许多这样的例子。

Text Comprehension

I. Choose the best answers to the following questions according to the text.

1. The first paragraph suggests that _____ determines how long the food remains in the stomach.
   A. the cardiac valve
   B. the pyloric sphincter
   C. the esophagus
   D. the small intestine
2. Which of the following is NOT a function of the stomach?
   A. Secreting digestive juices by tiny glands.
   B. Mixing the food that comes in with gastric juice.
   C. Holding the food temporarily when it is processed.
   D. Absorbing a large part of nutrients from the food.
3. Which of the following is NOT true about heartburn according to the author?
   A. It is actually a digestive problem rather than a heart problem.
   B. It could be caused by drinking great amount of water in a short time.
   C. It is probably caused by too much acid in the stomach.
   D. It is associated with eating or drinking too much and too fast.
4. Which of the following is NOT true according to the text?
   A. Nausea and vomiting may be caused by many factors.
   B. Sometimes people may vomit after feeling nausea.
   C. Disrupted motion of the stomach and intestine may cause nausea and vomiting.
   D. People will vomit when the stomach walls experience excessive stretching.
5. Which of the following sentences is true about stomach cancer?
   A. Stomach cancer may spread to nearby organs such as the liver.
   B. Females are more likely to have stomach cancers than males.
   C. Stomach cancers are usually found early enough.
   D. Indigestion is seldom related to stomach cancer.

II. Give brief answers to the following questions.

1. What is an ulcer?

   _____

2. What are the common locations of peptic ulcers?

   _____

3. What are the possible causes of peptic ulcers?

   _____

Vocabulary

I. Fill in the blanks with the proper form of the words given.

stretch	contract	retain	mix
expulsion	interfere	fail	define

1. By _____ his muscles, one can enhance the local physical strength of his limbs.
2. One of main effects of the traditional Chinese scraping treatment is _____ of toxin inside the body.
3. People began to _____ their limbs after the plane landed finally.
4. The main mechanism of antiviral drugs is _____ with virus replication in the human body.
5. The operation had to be delayed since the surgeon _____ to catch his plane back.
6. It is still difficult to _____ the new disease because no clear cause is found.
7. The stomach is like a big mixer which stores and _____ different kinds of food taken in.
8. The function of his left hand, although badly injured, has been _____ after the orthopedic surgery.

II. Choose the correct word to complete each of the following sentences.

1. The esophagus receives the contents of the contracting pharynx and forces them on by _____ .
   A. extension B. peristalsis C. distension D. expulsion
2. When food is on its way to the stomach, the cardiac valve _____ .
   A. relaxes B. empties C. retains D. stretches
3. An ulcer that is found on the _____ is not a peptic ulcer.
   A. esophagus B. duodenum C. stomach D. rectum
4. The word _____ means "farther from the origin of a structure."
   A. distal B. proximal C. lateral D. medial
5. A _____ is a muscle that surrounds a text in our body, and can tighten in order to close it.
   A. pouch B. churn C. sphincter D. fold

Grammar and Structure

I. Rewrite the sentences below by following the model given, placing the *italicized* parts at the beginning of the sentence to make them better balanced.

Model:

The other valve called the pyloric sphincter *is at the distal or far end of the stomach*,

connecting it with the small intestine.
At the distal or far end of the stomach, connecting it with the small intestine, *is* the other valve called the pyloric sphincter.

1. A small blind tube, called the vermiform appendix, is *attached to the cecum*.

2. Other means of a mechanical or chemical nature are *included in this first line of defense*.

3. This is called an inflammatory reaction; and the four classic symptoms, heat, redness, swelling and pain are *accompanying it*.

4. The delicate operations carried out by eye surgeons, brain surgeons, and plastic surgeons are *considerably less frequent*.

5. New and better ways to treat ulcers and even cure them have come *with this understanding*.

II. Complete each of the following sentences by fitting in an adverbial clause of reason.

A. *because* there are so many air spaces
B. *as* veins have much thinner walls than those of comparable arteries
C. *since* it is often found in cases of abnormally low acidity
D. *in that* it determines the length of time in which the food remains in the stomach

1. The pyloric sphincter is especially important _____ .
2. This condition is not due to overacidity of the stomach contents, _____ .
3. _____ , they are easily collapsed, and slight pressure by a tumor may interfere with the return blood flow.
4. _____ , the lung is light; and normally a piece of lung tissue dropped into a glass of water will float.

Translation

I. Translate the following sentences into English.

1. 这种药物的主要作用是加强胃蠕动。

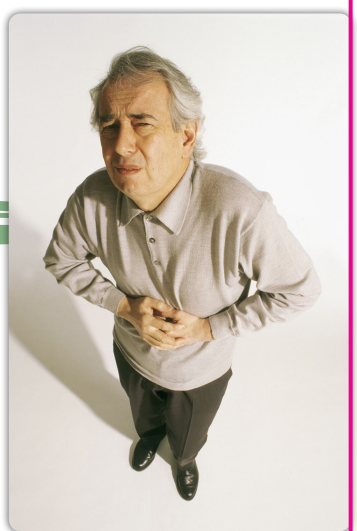
2. 胃的主要功能是消化食物，而小肠的主要功能是吸收营养。

3. 胃的表面光滑但内部有很多褶皱。

4. 过热的食物容易刺激食道，而过凉的食物容易刺激到胃。

5. 消化道溃疡已然为现代都市人的常见病。

Text B



Peptic Ulcer Disease

Peptic ulcer disease (PUD) is a very common ailment, affecting one out of eight persons in the United States. The causes of PUD have gradually become clear. With this understanding have come new and better ways to treat ulcers and even cure them.

Anatomy and Function of the Stomach

The stomach produces a very strong acid. This acid helps digest and break down food before it enters the small intestine (duodenum). The lining of the stomach is covered by a thick protective mucous layer which prevents the acid from injuring the wall of the stomach.

What Causes Peptic Ulcers?

An ulcer is an open sore in the lining of the stomach or intestine, much like mouth or skin ulcers. Peptic ulcers are eventually caused by acid and pepsin, a digestive stomach enzyme. These ulcers can occur in the stomach, where they are called gastric ulcers. Or they can occur in the first portion of the intestine. These are called duodenal ulcers. “Peptic Ulcer” is the term used to describe either or both of these two types of ulcers.

In the end, it is acid that causes the injury to the stomach or bowel lining. However, a revolutionary and startling recent discovery is that most peptic ulcers result from a stomach infection caused by the bacteria, Helicobacter pylori.

Helicobacter pylori (H. pylori)

This funny-sounding name identifies the basic cause of most peptic ulcers, excluding those caused by aspirin or arthritis drugs. H. pylori has a twisted spiral shape and infects the mucous layer lining of the stomach. This infection produces an inflammation in the stomach wall called gastritis. The body even develops a protein antibody in the blood against it. The bacteria are probably acquired from contaminated food or from a drinking glass. It is only after H. pylori bacteria injure the protective mucous layer of the stomach, allowing damage by stomach acid, that an ulcer develops.

Aspirin and Arthritis Medications

Arthritis medications include ibuprofen (Advil), Voltaren, and others. As with aspirin, they can

damage the mucous layer of the stomach, after which the stomach acid causes the final injury.

So, H. pylori and certain drugs are the two major factors that cause ulcers. In rare cases, a patient will produce very large amounts of acid and develop ulcers. Finally, some people get ulcers for unknown reasons.

Symptoms

Ulcers cause gnawing, burning pain in the upper abdomen. These symptoms frequently occur several hours following a meal, after the food leaves the stomach but while acid production is still high. The burning sensation can occur during the night and be so extreme as to wake the patient. Instead of pain, some patients experience intense hunger or bloating. Antacids and milk usually give temporary relief. Other patients have no pain but have black stools, indicating that the ulcer is bleeding. Bleeding is a very serious complication of ulcers.

Diagnosis

A diagnosis of peptic ulcers can be suspected from the patient's medical history. However, the diagnosis should always be confirmed either by an upper intestinal endoscopy, which allows direct examination of the ulcer or by a barium x-ray of the stomach. Rarely an ulcer can be malignant. With endoscopy, a biopsy specimen can be obtained to determine if this is so.

Treatment

Therapy of PUD has undergone profound changes. There are now available very effective medications to suppress and almost eliminate the outpouring of stomach acid. These acid-suppressing drugs have been dramatically effective in relieving symptoms and allowing ulcers to heal. If an ulcer has been caused by aspirin or an arthritis drug, then no subsequent treatment is usually needed. Avoiding these drugs should prevent ulcer recurrence.

The second major change in PUD treatment has been the discovery of the H. pylori infection. When this infection is treated with antibiotics, the infection, and the ulcer, do not come back. Increasingly, physicians are not just suppressing the ulcer with acid-reducing drugs, but they are also curing the underlying ulcer problem by getting rid of the bacterial infection. If this infection is not treated, the ulcers invariably recur.

Most ulcers can be cured without complications. However, in some cases, peptic ulcers can develop potentially life-threatening complications, such as penetration, perforation, bleeding (hemorrhage), and obstruction.

New Words and Expressions

sore /sɒ/ *n.* 伤处
pepsin /'pepsɪn/ *n.* 胃蛋白酶
duodenal /ˌdjuːəʊ'diːnl/ *adj.* 十二指肠的
startling /'stɑːtlɪŋ/ *adj.* 令人吃惊的
arthritis /ɑː'θraɪtɪs/ *n.* 关节炎
spiral /'spaɪərəl/ *adj.* 螺旋形的
gastritis /gæs'traɪtɪs/ *n.* 胃炎
ibuprofen /ˌaɪbjʊ'prəʊfɪn/ *n.* 布洛芬，异丁苯丙酸
gnawing /'nɔːɪŋ/ *adj.* 痛苦的，苦恼的
bloat /bləʊt/ *vt.* 使膨胀；使肿起

New Words and Expressions

stool /stu:l/ *n.* 大便，粪便
endoscopy /en'dɒskəpɪ/ *n.* 内镜检查
barium /'beərɪəm/ *n.* 钡
malignant /mə'lɪgnənt/ *adj.* 恶性的，致命的
biopsy /'baɪɒpsɪ/ *n.* 活组织检查
penetration /penɪ'treɪʃən/ *n.* 渗透；穿透
perforation /pɜ:fə'reɪʃ(ə)n/ *n.* 穿孔
Helicobacter pylori. 幽门螺杆菌

Review and Practice

I. Choose the best answers to the following questions according to the text.

1. According to the first paragraph, which of the following about peptic ulcers is TRUE?
   A. The incidence of peptic ulcers is relatively high.
   B. The etiology of peptic ulcers is fairly well understood.
   C. There are very effective ways of curing peptic ulcers.
   D. All of the above.
2. According to the text, the eventual cause of peptic ulcers is _____ .
   A. the action of acid　　B. the use of aspirin
   C. the presence of Helicobacter pylori　　D. arthritis medications
3. Helicobacter pylori may cause peptic ulcers by _____ .
   A. producing harmful antibody in the stomach
   B. contaminating foods, causing serious poisoning
   C. attacking the mucous membrane, causing an infection
   D. stimulating the production of too much acid in the stomach
4. According to the text, peptic ulcers may show lots of symptoms EXCEPT _____
   A. Burning pain in the upper abdomen.
   B. Intense feeling of hunger or bloating.
   C. Black stools indicating bleeding of the ulcer.
   D. Stomachache immediately after food is taken.
5. Which of the following reflects the most recent advancement in PUD treatment?
   A. Greatly increasing the dosage of acid-suppressing drugs.
   B. Removing the underlying problem while relieving symptoms.
   C. Effectively preventing life-threatening complications.
   D. Totally stopping the use of aspirin or arthritis drugs.

II. Decide whether each of the following statements is True (T) or False (F) according to the text.

_____ 1. Peptic ulcer disease (PUD) is a very common ailment, affecting one out of eight persons in the world.

2. The lining of the stomach is covered by a thick protective pepsin layer which prevents the acid from injuring the wall of the stomach.
3. A revolutionary recent discovery is that most peptic ulcers result from a stomach infection caused by the bacteria, Helicobacter pylori.
4. Arthritis and aspirin medications along with H. pylori are the only causes of PUD.
5. An upper intestine endoscopy allows direct examination of the ulcer.

III. Translate the following sentences into Chinese.

1. The lining of the stomach is covered by a thick protective mucous layer which prevents the acid from injuring the wall of the stomach.

2. However, a revolutionary and startling recent discovery is that most peptic ulcers result from a stomach infection caused by the bacteria, Helicobacter pylori.

3. The bacteria are probably acquired from contaminated food or from a drinking glass. It is only after H. pylori bacteria injure the protective mucous layer of the stomach, allowing damage by stomach acid, that an ulcer develops.

4. However, in some cases, peptic ulcers can develop potentially life-threatening complications, such as penetration, perforation, bleeding (hemorrhage), and obstruction.

Word Building

The word element *gastro-* means stomach, and *entero-* means intestine.

Guess the meaning of the following words from the word elements in them.

gastritis gastroesophageal gastroptosis (*-ptosis* falling) gastroscope gastrorrhea
enteropathogen enteroscope enterospasm enterostenosis enterocolitis

Here are two other more word elements related to the digestive system and some sample words.

odonto- tooth	odontorrhagia	odontolysis(-lysis dissolution)	
esophago- esophagus	esophagalgia	esophagomycosis	esophagospasm
duodeno- duodenum	duodenohepatic	duodenogram	duodenoscopy

Unit Nine

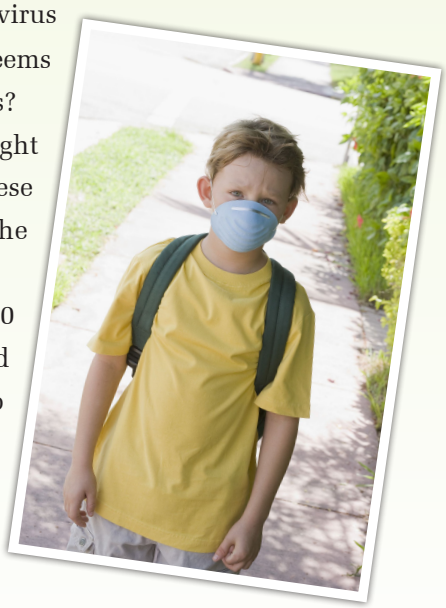
The Work and Diseases of The Lungs

Warming-up

No one knows exactly when it's going to happen. We only know it happens every so often. We know that infectious disease is able to infect the population at regular intervals. Experts believe the time is due right now for another one. When it strikes, will we be prepared?

Bird Flu Virus: Less Deadly But More Dangerous

People are rather confused over the news that the bird flu virus has now mutated to a less lethal, but far more dangerous form. It seems like a contradiction: If it's less lethal, shouldn't it be less dangerous?



No. It has to do with evolutionary biology, or what you might call microbiological Darwinism, which basically involves how these viruses survive, thrive and get passed on from one person to the next.

If it's really a deadly virus — like Ebola, which kills 90 percent of the people infected — then it's actually not very good at spreading from one person to the next. Why? It kills its host too quickly. It's so deadly that its host dies before it gets a chance to be infectious.

In order to be a pandemic, a virus must be highly infectious; it must be able to spread from one person to another in an

undetectable way. When a virus becomes less-immediately lethal, it is able to survive in the host in an undetectable state, for a longer period of time. This is what makes viruses really, really dangerous: A dangerous virus is not lethal to one individual; rather, it can exist in a hidden state and be passed from one person to the next. It's the contagiousness of a virus that makes it dangerous.

Let's say you're a virus and you consider "success" to be wiping people out. Obviously, viruses don't have that sort of thought process; this is just a way to explain their strategies. If you're a virus and you're trying to infect and kill people, you're going to be far more "successful" if you have a low kill rate but infect a billion people, rather than having a very high kill rate and only infecting 10 or 20 people. If you are a very deadly virus in the Congo, for example, and you manage to wipe out a small village, even though you were rather horrifying to the village and fatal to those people, you as a virus haven't been very successful. Why? You wiped out the village; there's nobody left to spread it. Now, again, of course viruses don't think this way: They don't have plans, they don't have strategies — this is just evolutionary biology in play.

On the other hand, let's say you are a virus with a very small kill rate — you only kill one or two percent of your hosts — but you're highly infectious. You, as this type of virus, can easily spread from one person to the next. Since 98 or 99 percent of the people who are infected with you won't die from it, they can walk around cites, airports and football stadiums and spread you to all the other hosts out there. If you are that kind of virus, you're going to be a lot more "successful" in spreading.

In the history of infectious disease, the most deadly viruses, in terms of the total number of people killed worldwide, were highly infectious, not necessarily highly lethal. If you look at the 1918 so-called "Spanish" flu, the virus did not have a kill rate anywhere near 90 percent, or even 70 percent. I believe it was well under 20 percent. But this virus was good at spreading from one host to another, which is what made it extremely dangerous.

New Words and Expressions

mutate /mjuːˈteɪt/ *vt. & vi.* （使某物）变异
lethal /ˈliːθəl/ *adj.* 致命的
contradiction /ˌkɒntrəˈdɪkʃən/ *n.* 矛盾
thrive /θraɪv/ vi. 生长旺盛
pandemic /pænˈdemɪk/ *n.* 大流行病
at regular intervals 每隔一定间隔；定期

Warming-up Activities

I. Decide whether each of the following statements is True (T) or False (F) according to the text.

1. Most people probably believe if a virus is less lethal, it is also less dangerous.
2. Usually, a less lethal virus does not survive or thrive as well as a lethal virus.
3. Ebola, a deadly virus, has a good chance to spread from one person to another.
4. In a pandemic, the virus involved is always highly infectious.
5. Some viruses can exist in a hidden state without causing too much trouble to the host.
6. In the world of viruses, the kill rate is what scientists pay most attention to.

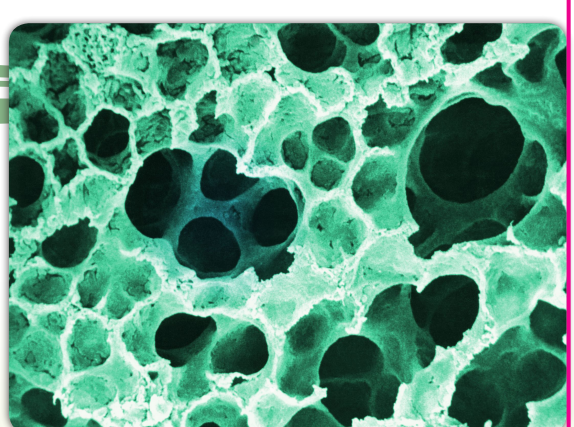
II. Learn the use of idiomatic expressions with the help of a dictionary.

Nose

1. Surely you can see what's wrong; it'***s as plain as the nose on your face***.
2. You have no right to ***poke your nose into*** my business.
3. I wouldn't play ball with someone like him; he ***sees no further than his nose***.
4. My children ***turn their noses up at*** fresh vegetables.

Text A

Lungs and Related Diseases



The lungs are the organs in which external respiration takes place; that is, where blood and air meet through the medium of the extremely thin and delicate lung tissues. There are two lungs, set side by side in the thoracic cavity, and each of them is constructed in the following manner:

As soon as each bronchus enters the lung at the hilum, it immediately subdivides. These branches or subdivisions of the bronchi resemble the branches of a tree, hence the common name, bronchial tree. Each individual bronchial tube subdivides again and again, forming progressively smaller divisions.

The smallest are called bronchioles. These tubes contain small bits of cartilage which give firmness to the walls and serve to hold the tubes open so that air can pass in and out easily. However, as the tubes become smaller, the cartilage also decreases in amount until finally, in the most minute subdivisions, there is no cartilage at all.

At the end of each of the smallest subdivisions of the bronchial tree, called terminal bronchioles, there is a whole cluster of air sacs, resembling a bunch of grapes, known as alveoli. Each air sac is made of one cell layer of squamous epithelium. This very thin wall provides an easy text for the gases entering and leaving the blood which is contained in the millions of tiny capillaries of the alveoli. Some estimates indicate that there are some 700 million of these alveoli in the human lung. The resulting surface in contact with gases approximates 60 square meters, about three times as much lung tissue as is necessary for life. Surely nature has allowed an ample margin of safety! Because of the many air spaces, the lung is light; and normally a piece of lung tissue dropped into a glass of water will float.

It will be recalled that the pulmonary circuit brings the blood to and from the lungs. The blood passes through the capillaries of the alveoli, where the gas exchange takes place.

The lungs occupy a considerable portion of the chest (thoracic) cavity, which is separated from the abdominal cavity by the muscular partition known as the diaphragm. Each lung is enveloped in a sac of serous membrane called the pleura; hence there are two pleurae. The chest cavity is lined with this membrane also, this layer being known as the parietal pleura, while the lung covering is called the visceral pleura. Between the lungs is a space called the mediastinum, containing the heart, among other things.

The entire thoracic cavity is flexible, capable of expanding and contracting along with the lungs. Its interior is well sealed off from the outside by its layer of membrane; and this is a feature of the mechanism of breathing.

The most dangerous diseases of the lungs are pneumonia, tuberculosis, and cancer. Pneumonia is an inflammation of the alveoli and may be caused by several pathogens. These pathogens may be carried by a healthy person in the mucosa of the upper respiratory tract. If the person remains in good condition, these pathogens may be carried for an indefinite period with no ill effect. However, if the individual's resistance to infection is lowered, the pathogens then may invade the tissues and work their damage. Tuberculosis is an inflammation caused by a bacillus. It was one of the most deadly and costly of all diseases in the early 1900s, but with the introduction of new drugs and the improvement of living and working conditions, the death rate from tuberculosis has declined dramatically. Unfortunately, the death rate due to cancer of the lungs has increased more than 800 percent in males and has more than doubled in females during the last 25 years. It is considerably higher in urban and industrial areas than in rural districts. There are many possible causes, but it is still controversial which are the most blameworthy. Those factors which have been mentioned most frequently are the presence of foreign particles and other irritants in the air (smoke particles, smog, exhaust fumes), and the smoking of cigarettes.

Other lung diseases include bronchitis, an inflammation of the bronchial tubes, and pleurisy,

an inflammation of the pleura. Silicosis is an inflammation of lung tissue caused by breathing in dust that contains silica.

New Words and Expressions

delicate /'delɪkɪt/ *adj.* 纤弱的；易损的
thoracic /θɒ(:)'ræsɪk/ *adj.* 胸的
bronchus /'brɒŋkəs/ *n.* （尤指肺两侧的）支气管
bronchiole /'brɒŋkɪəʊl/ *n.* 毛细支气管
cartilage /'kɑ:tɪlɪdʒ/ *n.* 软骨
minute /maɪ'nju:t/ *adj.* 极小的
alveoli /æl'vɪəlaɪ/ *n.* 肺泡（alveolus的复数形式）
ample /'æmpl/ *adj.* 足够的；丰富的
pleura /'plʊərə/ *n.* 胸膜
parietal /pə'raɪətl/ *adj.* 体壁的；腔壁的
visceral /'vɪsərəl/ *adj.* 内脏的
mediastinum /ˌmi:dɪæs'taɪnəm/ *n.* （胸腔）纵隔
pneumonia /nju:'məʊnɪə/ *n.* [医]肺炎
blameworthy /'bleɪmˌwɜ:ðɪ/ *adj.* 负有责任的
pleurisy /'plʊərɪsɪ/ *n.* 胸膜炎
silicosis /ˌsɪlɪ'kəʊsɪs/ *n.* 硅肺病
side by side 肩并肩地，并排
bronchial tree 支气管树

Notes To The Text

1. However, as the tubes become smaller, the cartilage also decreases in amount until finally, in the most minute subdivisions, there is no cartilage at all.
然而，随着管子越分越细，软骨含量也随之变小，直至在最小的分支中根本没有软骨。
注意，句中as the tubes become smaller为时间状语从句。

2. At the end of each of the smallest subdivisions of the bronchial tree, called terminal bronchioles, there is a whole cluster of air sacs, resembling a bunch of grapes, known as alveoli。
在支气管树每个最小分支（又称为终末细支气管）的末端，是一串形似葡萄的气囊，称之为肺泡。
本句句子结构比较松散，其中主句为there is a whole cluster of air sacs，介词短语at the end of each of the smallest subdivisions of the bronchial tree放句首表示强调，非限制性分词短语called terminal bronchioles作定语修饰名词词组the smallest subdivisions of the bronchial tree，另一非限制性分词短语known as alveoli修饰air sacs。

3. The resulting surface in contact with gases approximates 60 square meters, about three times as much lung tissue as is necessary for life.
由此产生的与空气接触的表面约为60平方米，约为维持生命实际所需的肺组织的3倍。

④ Those factors which have been mentioned most frequently are the presence of foreign particles and other irritants in the air (smoke particles, smog, exhaust fumes), and the smoking of cigarettes.
经常被提及的因素有空气中存在异物颗粒和其他刺激物，如烟雾颗粒、烟尘和废气，还有吸烟。

Text Comprehension

I. Choose the best answers to the following questions.

1. The main function of the lungs is _____ .
   A. to serve as organs for external respiration
   B. to allow air to come into the body cells
   C. to provide a text for various gases
   D. to fill the thoracic cavity on both sides
2. Which of the following keeps the bronchial tree open?
   A. The repeated subdivision of the bronchial tubes.
   B. The small bits of cartilage in the bronchioles.
   C. The extremely thin and delicate lung tissues.
   D. The gases constantly coming in and going out.
3. Why does a piece of lung tissue normally float in water?
   A. Because it is the lightest tissue of the body.
   B. Because it absorbs air easily and quickly.
   C. Because there are many air spaces in it.
   D. Because the air sacs contain millions of capillaries.
4. The two lungs are separated from each other by _____ .
   A. the diaphragm　　B. the chest cavity
   C. the pleurae　　D. the mediastinum
5. Which of the following is NOT true of the thoracic cavity?
   A. It is continuous with the abdominal cavity.
   B. It is lined with a layer of the pleura.
   C. It contains several structures including the heart.
   D. It is sealed off from the outside.
6. What does the author mean by saying “Surely nature has allowed an ample margin of safety!”?
   A. Nature seems to favor the respiratory system especially.
   B. The human body has more lung tissue than is necessary.
   C. The lung tissue is firm and strong though it is thin and delicate.

D. Surely we should thank nature for the perfect structure of the lung.

II. Give brief answers to the following questions.

1. What is pneumonia? What is the main cause leading to pneumonia?

2. When is a person more likely to suffer from pneumonia?

3. Why has tuberculosis become less threatening now?

4. The death rate due to what kind of cancer has increased dramatically in the last two decades or so?

Vocabulary

I. Fill in the blanks with the proper form of the words given.

construct	resemble	decline	progressively	ample
feature	estimate	invade	seal	controversial

1. It was difficult to _____ how many people were infected during the pandemic.
2. The predominant _____ of this disease is irregular bleeding.
3. Germs may _____ the sample if it's not covered with sterilized container.
4. Inside each cartridge is an even smaller capsule with a foil _____ .
5. In face of _____ health, he was struggling to manage by himself.
6. Everybody will be given _____ opportunity to express his views.
7. We tried to stay away from _____ topics at the dinner party.
8. The human skeleton is _____ by 206 bones.
9. She may _____ her father facially, but in other respects she's not at all like him.
10. As a person grows old, he may experience _____ loss of sight.

II. Choose the correct word to complete each of the following sentences.

1. The muscular partition that separates the thoracic cavity from the abdominal cavity is known as _____ .

   A. the septum B. the diaphragm C. the visceral pleura D. parietal pleura

2. Athletes should wear shoes with _____ rubber soles to protect themselves against injury.

   A. extensive B. firm C. indefinite D. flexible

3. The artery leading from the right ventricle of the heart to the lungs is _____ artery.
   A. hepatic B. respiratory C. pulmonary D. carotid
4. _____ respiration refers to the gas exchanges within the body cells.
   A. Terminal B. Internal C. Alveolar D. Gaseous
5. An inflammation of lung tissue caused by breathing in dust is called _____ .
   A. silicosis B. leukocytosis C. bronchitis D. mucositis

Grammar and Structure

I. Rewrite the following sentences by using the nominative absolute construction as shown in the model.

Model:

The chest cavity is lined with this membrane also; *this layer is known* as the parietal pleura.

The chest cavity is lined with this membrane also, *this layer being known* as the parietal pleura.

1. The circulation of the fetus differs in several ways from that of the child after birth; one difference is that the lungs are not used until the child is born.

_____

2. As a rule, lymph nodes are massed together in groups; the number in each group varies from two to three up to well over 100.

_____

3. The adrenal glands are two small glands; each one is situated above a kidney.

_____

4. The bladder is emptied from time to time; the urine is expelled to the exterior through urethra.

_____

II. Complete each of the following sentences by fitting in an *adverbial clause of time*.

A. *when* so many air sacs become filled with fluid
B. *after* H. pylori bacteria injure the protective mucous layer of the stomach
C. *before* it enters the small intestine
D. *until* finally there is no cartilage at all in the most minute subdivisions
E. *as* the organisms travel along the lining membrane
F. *as soon as* each bronchus enters the lung at the hilum

1. An ulcer develops _____ .
2. The respiratory textways may become infected one by one _____ .
3. _____ , the victim finds it difficult to absorb enough oxygen to maintain life.
4. _____ , it immediately subdivides.

5. The gastric acid helps digest and break down food _____ .
6. As the tubes become smaller, the cartilage also decreases in amount _____ .

Translation

I. Translate the following sentences into English.

1. 近些年，肺结核的发病率又呈现出上升的趋势。

2. 肺是一个精细复杂而且脆弱的器官。

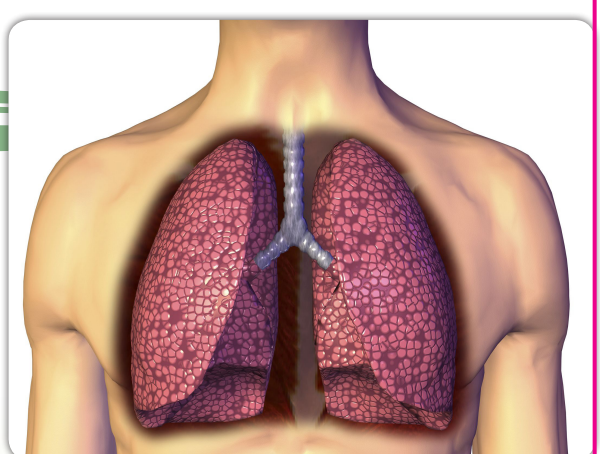
3. 吸烟与肺部疾病的关系虽已被广泛知晓，然而烟民的数量却仍在递增。

4. 新生儿的第一声啼哭标志着他的肺开始工作了。

5. 严重的心脏疾病最终都会有一定程度的肺部症状。

Text B

Spread of Infection along the Respiratory Tract



Very often membranes act as pathways for the spread of disease. The mucosa of the respiratory tract is an excellent example of such a pathway; it serves as one of the most important portals of entry for disease-producing organisms. This transfer of disease organisms from the respiratory system of one human being to another occurs much more rapidly in crowded areas such as schools, auditoriums, theaters, churches and prisons. Droplets from one sneeze may be loaded with many billions of disease-producing organisms. To a certain extent the mucous membranes can protect themselves by producing larger quantities of mucus. The runny nose, an unpleasant symptom of the common cold, is an attempt on the part of nature to wash away the pathogens and so protect the deeper tissues from further invasion by the infection. If the resistance of the mucous membrane is reduced, however, the infection may travel along the membrane into the

nasal sinuses, into the middle ear or down into the lung. Infections may also spread from the respiratory tract to the digestive system, or the reverse, because of the continuity of the mucosa.

Among the infections transmitted through the respiratory textways, are the common cold, diphtheria, chickenpox, measles, influenza and tuberculosis. Any infection which is confined to the nose, throat, the larynx, or the trachea is called an upper respiratory infection (often recorded simply as URI). In children's wards in hospitals the records show that the great majority of patients with these diseases had first developed symptoms of an upper respiratory infection. Very often, too, such an infection can precipitate the onset of such a serious disease as rheumatic fever.

The respiratory textways may become infected one by one as the organisms travel along the lining membrane. The disorder is named according to the part involved, as for example:

1. Rhinitis, which means inflammation of the nasal mucosa.
2. Pharyngitis, which is inflammation of the pharynx, referred to also as sore throat.
3. Laryngitis, which is inflammation of the larynx, and is often characterized by hoarseness.
4. Tracheitis, or inflammation of the windpipe.
5. Bronchitis, which includes infection of the bronchi and their many subdivisions in the lungs.
6. Pneumonia, in which the lung alveoli are involved.

New Words and Expressions

portal /'pɔ:təl/ *n.* 入口
auditorium /ˌɔ:dɪ'tɔ:rɪəm/ *n.* 礼堂，会堂
droplet /'drɒplɪt/ *n.* 小滴，小水珠
sneeze /sni:z/ *n.* 喷嚏
mucus /'mju:kəs/ *n.* 黏液
sinus /'saɪnəs/ *n.* [解]窦，窦道
diphtheria /dɪf'θɪərɪə/ *n.* 白喉
trachea /trə'ki:ə/ *n.* 气管
precipitate /prɪ'sɪpɪteɪt/ *vt.* 使提前或突然发生
onset /'ɒnset/ *n.* [医]发病
rheumatic /ru:'mætɪk/ *adj.* 风湿病的
rhinitis /raɪ'naɪtɪs/ *n.* 鼻炎
pharyngitis /ˌfærɪn'dʒaɪtɪs/ *n.* 咽炎
laryngitis /ˌlærɪn'dʒaɪtɪs/ *n.* 喉炎
tracheitis /ˌtreɪkɪ'aɪtɪs/ *n.* 气管炎
bronchitis /brɒŋ'kaɪtɪs/ *n.* 支气管炎
disease-producing organism 致病微生物
to a certain extent 一定程度上
chicken pox *n.* 水痘

Review and Practice

I. Choose the best answers to the following questions according to the text.

1. Where does the transmission of respiratory tract infections occur more rapidly?
   A. In wide rural areas.
   B. In industrialized areas.
   C. In crowded areas.
   D. In very cold areas.
2. Which of the following is TRUE about mucous membranes protecting themselves from the attack of disease-producing organisms?
   A. The protection is usually adequate.
   B. The protection is effective to some degree.
   C. The protection results from sneezing and coughing.
   D. The common cold is an example of such protection.
3. When is it more likely that the infection may travel along the mucous membrane?
   A. When the resistance of the mucous membrane is reduced.
   B. When the patient shows unpleasant symptoms of the common cold.
   C. When infections have reached sinuses or the middle ear.
   D. When the patient suffers from digestive problems at the same time.
4. Why should URI be taken seriously?
   A. Because it produces unpleasant symptoms such as runny nose.
   B. Because it is limited to the upper respiratory tract.
   C. Because it may be followed by more serious problems.
   D. Because it is mainly a disease affecting children.
5. When a person's voice becomes hoarse, he may suffer from _____ .
   A. rhinitis　　B. pharyngitis　　C. tracheitis　　D. laryngitis

II. Decide whether each of the following statements is True (T) or False (F) according to the text.

_____ 1. The mucosa of the respiratory tract serves as one of portals of entry for disease-producing organisms.
_____ 2. The runny nose is actually due to the excessive production of mucus.
_____ 3. The mucosa of the respiratory tract and that of the digestive system are separate and discontinuous.
_____ 4. Diphtheria, chickenpox and measles are caused by the invasion of the same pathogen into the respiratory textways.
_____ 5. The majority of children with an upper respiratory infection may develop rheumatic fever.

III. Translate the following sentences into Chinese.

1. The mucosa of the respiratory tract is an excellent example of such a pathway; it serves as one of the most important portals of entry for disease-producing organisms.

2. The runny nose, an unpleasant symptom of the common cold, is an attempt on the part of nature to wash away the pathogens and so protect the deeper tissues from further invasion by the infection.

3. Infections may also spread from the respiratory tract to the digestive system, or the reverse, because of the continuity of the mucosa.

4. Any infection which is confined to the nose, throat, the larynx, or the trachea is called an upper respiratory infection (often recorded simply as URI).

Word Building

The word element *pneumo-*, or *pneumono-* indicates lung, or air.

Guess the meaning of the following words from the word elements in them, paying special attention to whether pneumo- (pneumono-) means lung or air.

pneumonia	pneumococcus	pneumocardial	pneumonography
pneumometer	pneumocolon	pneumothorax	pneumopericardium

The word elements *tracheo-* and *broncho-* mean trachea and bronchus, two important parts in the respiratory system.

Guess the meaning of the following words from the word elements in them, paying special attention to the roots of the words.

tracheotomy	tracheostomy	tracheoplasty	tracheopyosis
bronchorrhagia	bronchoscope	bronchospasm	bronchodilation

Unit Ten

Taking Great Care of Your Brain

Warming-up

You are all young and healthy — able-bodied in every way. But how would you feel if you were physically-challenged because of a brain or spinal disorder? What changes would you wish to see that may improve the lives of the physically-challenged people?

What If You Couldn't ...

You have probably seen people who move around with the help of a wheelchair, braces, walkers, or crutches all the time. Able-bodied people who aren't used to seeing these aids being used are sometimes frightened by them. They may also be frightened by the people using the aids because they look different from other people. That's a pretty natural response, but it doesn't help the person using the aids much.

People need to use wheelchairs for a lot of different reasons. Usually, their legs are very weak or paralyzed, or they are unable to control their leg movements.

Extreme weakness or paralysis can be the result of a disease like polio. This disease can attack the nervous system, which carries messages from your brain to your muscles. If the nervous system is damaged, messages from the brain can't get through, and the muscles can't move.

Some problems are the result of a genetic mistake. Something goes wrong while the baby is growing inside his or her mother. Muscular dystrophy is one of these problems. You can't catch it; you are born with it. It causes your muscles to be very weak, so that even if messages from the brain are getting through, the muscles are not strong enough to respond.

Some paralysis is the result of an injury. The most important part of the nervous system is called the spinal cord. If the spinal cord is badly damaged in a car accident, messages from the brain will not be able to get through to the muscles. Depending on the severity of the accident, a person's whole body, including arms and hands, could be paralyzed.

Little can be done to cure these problems. Unlike skin or bone, the brain, spinal cord, and nervous system cannot repair themselves or be repaired by doctors, although in certain cases surgery may improve a person's ability to move around. Physical therapy may sometimes also help to strengthen weak muscles or prevent unused muscles from wasting away.

Many people who are physically challenged have become very politically active over the past few years. They have been lobbying for new laws that will guarantee equal education and employment opportunities for people who are physically challenged and that will require the designers and builders of housing, public buildings, streets, sidewalks, and parking lots to make these areas accessible by wheelchair. Many of these efforts have been successful, so you will be able to see curb cuts, ramps, and accessible bathrooms and parking spaces in more and more public places. As it becomes easier for people who are physically challenged to get out into the world, perhaps it will become easier for able-bodied people to become more accepting and not to feel awkward or afraid.

New Words and Expressions

healthy-able-bodied 健康强壮的
physically-challenged 残疾的
crutch /krʌtʃ/ *n.* 拐杖
paralyze /'pærəlaɪz/ *vt.* 使瘫痪
polio /'poʊlɪoʊ/ *n.* 脊髓灰质炎
dystrophy /'dɪstrəfɪ/ *n.* 营养不良
severity /sɪ'verɪtɪ/ *n.* 严重
lobby /'lɒbɪ/ *vi.* 游说
ramp /ræmp/ *n.* 土堤斜坡；斜道
spinal cord 脊髓
curb cut 路沿斜坡

Warming-up Activities

I. Answer the following questions according to the text.

1. When do people use wheelchairs?
2. According to the text, what is the cause of muscular dystrophy?
3. Can you explain why polio can result in extreme weakness or paralysis of the legs?
4. Can polio be cured? If not, what are the suggested therapies for paralyzed persons?
5. Why do some physically challenged people become politically active?

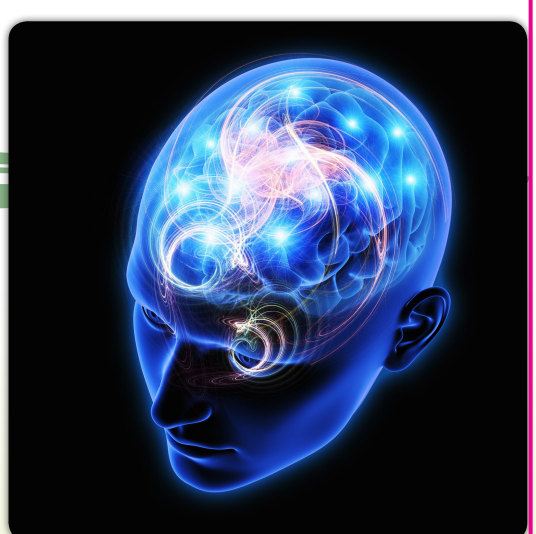
II. Learn the use of idiomatic expressions with the help of a dictionary.

Mind

1. The good thing about running is that it ***takes my mind off*** any problems I've got.
2. If you'd just ***set/turn your mind to*** it, I'm sure you could do it.
3. He's not really ill; it's ***all in your mind***.
4. ***Bear in mind*** that young children will put anything in their mouths.

Text A

Disorders of the Brain



The brain is not only the most important component of the nervous system; it is also the controller of all bodily activities, thoughts, and emotions. It is composed of the pons, medulla oblongata, cerebellum, and the cerebrum. The cerebellum is the area of the brain that coordinates the voluntary muscles; the medulla oblongata controls the involuntary muscles; the pons is where many important nerves originate.

It is the cerebrum that gives humans their ability to think, remember, and conceptualize. It is divided vertically into two halves known as the left and right hemispheres. The left hemisphere processes verbal functions, while the right hemisphere is involved in nonverbal activities and is the seat of human creativity. Many scientists believe that, in each individual, one of the two hemispheres is dominant, and that the individual has greater intellectual strength in the dominant hemisphere.

Damage to the brain may result from a number of causes. These include:

Stroke, or cerebral apoplexy, is by far the most common kind of brain disorder. Rupture of a blood vessel (with a consequent cerebral hemorrhage), thrombosis or embolism may cause destruction of brain tissue. Such disorders are more frequent in the presence of artery wall disease, and hence are more common after the age of 40. The onset may seem to be sudden and often is referred to as a cerebrovascular accident. The effects of a stroke will depend on the extent and location of the artery involvement. A hemorrhage into the white matter of the internal capsule in the lower part of the cerebrum may cause extensive paralysis on the side opposite to the affected area. Such a paralysis is called hemiplegia, and the person so afflicted is known as a hemiplegic.

Cerebral palsy is a disorder present at birth. It is characterized by diverse disorders of muscles varying in degree from weakness to complete paralysis, and in extent from a slight disorder of the lower extremity muscles to paralyses involving all four extremities and the speech muscles as well. With patient and continuous muscle reeducation, speech training and other corrective procedures these victims may be helped considerably.

Tumors of the brain may develop at any age, but are somewhat more common in young and middle-age adults. Most brain tumors originate from the neuroglia and are called gliomas. The symptoms produced depend on the location of the growth, its destructiveness and the amount it compresses the brain tissue. Involvement of the frontal portions of the cerebrum often causes mental symptoms, such as changes in personality, disordered conduct and drowsiness. Early surgery offers help of cure in some cases.

Aphasia is a term that refers to the loss of the ability to speak or write, or the loss of the understanding of written or spoken language. There are several different kinds of aphasia, depending on what part of the brain is affected. Usually damage to a speech center causes more disturbance in the well-educated person than it does in the illiterate. It also has been noted that there is a tendency for the last language to be acquired to be the first to be lost; and conversely, the speech concepts that were obtained first (in childhood) remain the longest. The lesion that causes aphasia is likely to be in the left cerebral hemisphere in the right-handed person. Often much can be done for these people by patient retraining and much understanding. The brain is an organ that has a marvelous capacity for adapting itself to different conditions, and its resources are tremendous. Often some means of communication can be found even through speech areas are damaged.

New Words and Expressions

pons /pɒnz/ *n.* 脑桥
medulla oblongata 延髓；延脑
oblongata /ɒblɒŋ'gɑːtə/ *n.* [医] 延髓
cerebellum /ˌserɪ'beləm/ *n.* 小脑
cerebrum /'serɪbrəm/ *n.* 大脑
coordinate /kəʊ'ɔːdɪnɪt/ *vt.* 使协调
conceptualize /kən'septjʊəlaɪz/ *vi.* 概念化
vertically /'vɜːtɪkəlɪ/ *adv.* 垂直地
dominant /'dɒmɪnənt/ *adj.* 占优势的
hemisphere /'hemɪsfɪə/ *n.* 大脑半球
creativity /ˌkriːeɪ'tɪvətɪ/ *n.* 创造性，创造力
rupture /'rʌptʃə/ *n.* 断裂，破裂
thrombosis /θrɒm'bəʊsɪs/ *n.* 血栓症
embolism /'embəlɪzəm/ *n.* 栓塞
cerebrovascular /ˌserɪbrəʊ'væskjʊlə(r)/ *adj.* 脑血管的
hemiplegia /ˌhemɪ'pliːdʒɪə/ *n.* 偏瘫，半身不遂
extremity /ɪks'tremɪtɪ/ *n.* 手和足；极端；绝境
neuroglia /njʊ'rɒglɪə/ *n.* 神经胶（质）
glioma /glaɪ'əʊmə/ *n.* 神经胶质瘤
drowsiness /'draʊzɪnɪs/ *n.* 嗜睡
aphasia /ə'feɪzɪə/ *n.* 失语症
illiterate /ɪ'lɪtərɪt/ *adj.* 目不识丁的，文盲的
lesion /'liːʒən/ *n.* 损害
cerebral apoplexy 脑溢血
cerebral palsy 脑瘫

Notes To The Text

1. Unlike skin or bone, the brain, spinal cord, and nervous system cannot repair themselves or be repaired by doctors, although in certain cases surgery may improve a person's ability to move around.
与皮肤或骨骼不同，大脑、脊髓和神经系统不能自我修复，医生也不能修复，尽管在某些病例中，外科手术可能改善病人的行动能力。

2. The symptoms produced depend on the location of the growth, its destructiveness and the amount it compresses the brain tissue.
（脑瘤）产生的症状与其生长的位置、破坏程度以及其对脑组织压迫的程度有关系。
本句中produced为过去分词，修饰主语symptoms。

3. It also has been noted that there is a tendency for the last language to be acquired to be the first to be lost; and conversely, the speech concepts that were obtained first (in childhood) remain the longest.
人们注意到，有一种趋势是最后学会的语言可能第一个被忘却，相反，最初在儿童期学会的言语概念可以保持最长时间的记忆。

Text Comprehension

I. Match the parts of the brain with the functions they perform.

1. The cerebrum.	A. Processing verbal functions.
2. The cerebellum.	B. Nonverbal activities and creativity.
3. The medulla oblongata.	C. Thought, memory and reasoning.
4. The pons.	D. Connecting different parts of the nervous system.
5. The right hemisphere of the cerebrum.	E. Coordinating the voluntary muscles.
6. The left hemisphere of the cerebrum.	F. Controlling involuntary muscles.

II. Answer the following questions according to the text.

1. Which one of the two hemispheres has greater intellectual strength according to many scientists?
   A. The left hemisphere.
   B. The right hemisphere.
   C. Either one of the two.
   D. Not mentioned.
2. Which of the following is NOT mentioned in the discussion of stroke?
   A. Stroke occurs far more frequently than other brain disorders.
   B. Rupture of a blood vessel leads to worse consequences than thrombosis or embolism.
   C. Strokes are often related to the presence of artery wall disease.
   D. The extent and location of the artery involvement may determine the severity of a stroke.
3. Tumors of the brain _____ .
   A. are more common in older adults than in young and middle-age adults
   B. are mostly secondary growths following the development of cancer elsewhere
   C. may cause rupture of blood vessels, leading to stroke
   D. are sometimes accompanied by changes in personality
4. Which of the following statements is NOT true of cerebral palsy according to the text?
   A. Cerebral palsy can cause muscle disorders.
   B. Cerebral palsy can weaken the patients' ability to move about.
   C. Cerebral palsy can affect patients' ability of speech.
   D. Little can be done to help patient with cerebral palsy improve their life quality.
5. Which of the following statements is TRUE according to the text?
   A. More educated people tend to be less affected than those less educated when they have aphasia.
   B. The second language could be forgotten faster than the first language by aphasia patients.
   C. Damage on the right hemisphere could probably lead to aphasia in right-handed people.
   D. Aphasia refers to the total loss of the ability to communicate.

Vocabulary

I. Fill in the blanks with the proper form of the words given.

conversely	affect	acquire	obtain
originate	drowsy	destructiveness	dominant

1. Studies have now shown that this plant _____ in Africa.
2. The tablets may make you feel _____ .
3. Some wrong answers were marked right and, _____ , some right answers had been rejected.
4. The way children _____ language is natural: they hear the language spoken from morning till night.
5. In the second experiment they _____ a very clear result.
6. Those more interested in mathematics are probably left-brain _____ .
7. This failure will probably _____ our prestige in the medical field.
8. Drinking may lure people across the line from pleasure to _____ .

II. Complete each of the following sentences by choosing the correct word given.

1. A child's _____ for learning is almost infinite.
   A. capacity B. creativity C. originality D. personality
2. The brain controls the _____ of muscle movement.
   A. transmission B. involvement C. coordination D. cooperation
3. The poor educational situation is obvious; only 20% of women in the country are _____.
   A. literate B. illiterate C. intellectual D. verbal
4. It is possible to do _____ surgery on the eyes to take care of the problem.
   A. extensive B. diverse C. corrective D. conducive
5. There were X-ray pictures showing _____ to both lungs.
   A. symptoms B. lesions C. extents D. paralysis

Grammar and Structure

I. In the following sentence, there is an *appositional clause* introduced by the connective *that*. Rewrite the sentences below by following the model given.

Model:

There is evidence; the evidence is that, in each individual, one of the two hemispheres is dominant, and that the individual has greater intellectual strength in the dominant

hemisphere.
There is evidence that, in each individual, one of the two hemispheres is dominant, and that the individual has greater intellectual strength in the dominant hemisphere.

1. Researchers have begun to investigate the possibility; the possibility is that people have a fixed level of fat storage and body weight that is genetically determined and difficult to alter.

_____

2. People have never liked the thought; the thought is that they would get old or that their lives would end around a fixed age.

_____

3. If a patient's breathing continues to be noisy this is an indication; the indication is that there is some obstruction in the air text.

_____

II. Complete each of the following sentences by fitting in an *adverbial clause of concession*.

A. *although* there are many fissures in the brain
B. *though* it may not be manifest until a later time in life
C. *even though* speech areas are damaged
D. effective *as* the new antibiotics are
E. *no matter whether* they are of the mild variety, *or* the severe aches
F. *however* mild it is

1. Often some means of communication can be found _____ .
2. A hereditary condition will always be congenital, _____ .
3. Almost all of us have experienced headaches in our lives, _____ .
4. _____ , a few are especially important landmarks, including longitudinal fissure, central fissure, and lateral fissure.
5. _____ , a disease may become serious, or even fatal, if complicated by a secondary infection.
6. _____ , they may at the same time cause serious side effects.

Translation

I. Translate the following sentences into English.

1. 缺乏睡眠会令人觉得头昏脑胀。

_____

2. 坚果中含有很多大脑运作所需的营养成分。

3. 车祸损伤了他的左脑并导致了失语症。

4. 物理治疗令他在多年瘫痪后重新站了起来。

5. 这个孩子的残疾主要源于出生时的脑缺氧(cerebral anoxia)。

Text B

Headaches

Almost all of us have experienced the agony of at least one major headache in our lives, whether it be of the mild, throbbing variety, or the severe, pounding ache that makes us nauseated or dizzy. Not all headaches are equal; more important, not all headaches are caused by the same things. Headaches can result from dilated blood vessels within the brain, from underlying organic problems, or from excessive stress and anxiety. The following are the most common forms of headaches and the most effective methods of treatment.

Tension Headaches Tension headaches are generally caused by muscle contractions or tension in the neck or head. This tension may be caused by actual strain placed on neck or head muscles because of overuse, static positions held for long periods of time, or tension triggered by stress. The majority of all headaches are caused by excessive tension, be it physical or psychological. Symptoms may vary in intensity and duration, but relaxation is generally the best form of prevention and treatment. Common relaxation methods include sleep, meditation, a hot bath, massage, or certain heat treatments used to relax the affected muscles.

Migraine Headaches

Migraine headaches usually are localized on only one side of the head. Migraines are believed to be caused by unusual alternating dilation and constriction of blood vessels in the brain. Symptoms can range from visual disturbances to excruciating pain that lasts for minutes or hours. The pain tends to worsen over time and to recur. In some cases, migraines are so severe

that the person is unable to work or continue normal activity. Nausea, vomiting, and general weakness often accompany migraines. When true migraines occur, relaxation is only minimally effective as a treatment. Often, strong pain-relieving drugs prescribed by a physician are necessary.

Secondary Headaches Secondary headaches arise as a result of some other underlying condition. A good example is a person with a severe sinus blockage that causes pressure in the sinus cavity. This pressure may induce a headache. Hypertension, allergies, low blood sugar, diseases of the spine, the common cold, poorly fitted dentures, problems with eyesight, and other types of pain or injury can trigger this condition. Relaxation and pain relievers such as aspirin are of little help in treating secondary headaches. Rather, medications designed to relieve the underlying organic cause of the headache must be included in the treatment regimen.

Psychological Headaches With this type of headache, the "it's all in your head" diagnosis may, in fact, be correct. Rather than having a physical cause, psychological headaches stem from anxiety states, depression, and other emotional factors.

How do these headaches differ from tension headaches? Although it can be difficult to distinguish between the two, psychological headaches result from the stress of severe emotional disturbances, particularly depression. Unlike tension headaches, no muscles or blood vessels appear to be involved, thereby making relaxation and painkillers virtually worthless as treatment.

Victims of depression-related headaches tend to suffer from sleep disturbances and to experience symptoms over a period of years. Only therapy designed to treat the underlying depression or emotional problem appears to be effective in reducing the headache. Depression-related headaches, like all headaches, may indicate a more serious underlying condition. If severe headaches do not improve with aspirin or relaxation techniques, persist for more than 3 days, or are accompanied by visual disturbances, nausea, speech difficulties, numbness or tingling in the face or limbs, you should see your physician.

New Words and Expressions

agony /'ægənɪ/ *n.* 极大的痛苦，苦恼，烦闷
throb /θrɒb/ *n.* 跳动
dilate /daɪ'leɪt/ *vi.* 扩大；膨胀
static /'stætɪk/ *adj.* 静止的；不变的
intensity /ɪn'tensɪtɪ/ *n.* 强度
meditation /medɪ'teɪʃən/ *n.* 沉思；冥想
migraine /'mi:greɪn/ *n.* 偏头痛
excruciating /ɪk'skru:ʃɪeɪtɪŋ/ *adj.* 极度的
denture /'dentʃə/ *n.* （一副）假牙；托牙
regimen /'redʒɪmen/ *n.* （为病人规定的）生活规则，养生法
numbness /'nʌmnɪs/ *n.* 无感觉，麻木
tingle /'tɪŋgl/ *vi.* 感到刺痛；引起刺痛
general weakness 全身无力
stem from 起源于，由…造成

Review and Practice

I. Choose the best answers to the following questions according to the text.

1. What does the first paragraph tell us?
   A. Headaches are usually caused by similar problems.
   B. Headaches can be the results of organic or psychological problems.
   C. Almost all headaches can cause great pain and suffering.
   D. Headaches and feelings of nausea and dizziness usually occur together.
2. Tension headaches may be relieved by _____ .
   A. removing the strain on neck or head muscles and reduce tension
   B. keeping the neck and head straight while sitting and standing
   C. strengthening the muscles through exercising
   D. learning how to endure and live with stress
3. Migraine headache is characterized by _____ .
   A. its location on one side of the head
   B. severe constriction of blood vessels in the brain
   C. its tendency to get better without treatment
   D. its diverse effects on vision, hearing, smelling and tasting
4. Which of the measures is necessary when severe migraine headache occurs?
   A. Quitting work for rest immediately.
   B. Trying to relax as much as possible.
   C. Acquiring effective medications.
   D. Dealing quickly with accompanying symptoms.
5. Which of the following is TRUE of secondary headaches?
   A. They do not seem to have a clear cause.
   B. They are usually of the mild variety.
   C. Relaxation often brings about temporary relief.
   D. Their real causes should be found and tackled.

II. Decide whether each of the following statements is True (T) or False (F) according to the text.

_____ 1. Psychological headaches do not have a physical cause; rather, they arise from emotional factors.

_____ 2. Sometimes it is difficult to distinguish between psychological headaches and tension headaches.

_____ 3. Relaxation and painkillers are useful as treatment for psychological headaches.

_____ 4. Victims of psychological headaches tend to suffer from sleep disturbances and to experience symptoms for a long period of time.

_____ 5. Unlike other headaches, depression-related headaches seldom have underlying causes.

6. The best treatment for psychological headaches, even the severe ones, is to wait patiently for the symptoms to disappear.

III. Translate the following sentences into Chinese.

1. Almost all of us have experienced the agony of at least one major headache in our lives, whether it be of the mild, throbbing variety, or the severe, pounding ache that makes us nauseated or dizzy.

2. Common relaxation methods include sleep, meditation, a hot bath, massage, or certain heat treatments used to relax the affected muscles.

3. Hypertension, allergies, low blood sugar, diseases of the spine, the common cold, poorly fitted dentures, problems with eyesight, and other types of pain or injury can trigger this condition.

4. If severe headaches do not improve with aspirin or relaxation techniques, persist for more than three days, or are accompanied by visual disturbances, nausea, speech difficulties, numbness or tingling in the face or limbs, you should see your physician.

Word Building

The word element encephalo- refers to the brain, and neuro- refers to nerve.

Guess the meaning of the following words from the word elements in them.

encephalopyosis	encephalorrhagia	encephalotomy	encephalography
neuromuscular	neuroma	neuroticism	neurosurgery

Here are two more word elements referring to important parts of the nervous system:

cerebro- cerebrum	cerebrospinal	cerebralgia	cerebrocentric
myelo- spinal cord	myelitis	myeloplegia	myelorrhagia

Unit Eleven

Meeting The Basic Human Needs (1)

Warming-up

Sun rages by day and temperatures over 40 degrees wring water from your body. At night it's so cold that you shiver. The only sign of life is an occasional lizard or snake, and no real water is visible. If you should find yourself in such a situation, what do you do?

Survival in the Desert

The first thing you don't do is move around a lot. If your car has broken down, stay with it. It's easier for rescuers to spot a car than a person. Besides, your vehicle is your shelter. Hide from the sun under your car. If it's daytime and you have no other shelter, dig a ditch — exerting yourself as little as possible — a foot or two deep, preferably in the shade of a shrub. It's a bit cooler in the ditch. If you sit on the ground, sit on a couple of shrub branches. If possible, sleep a little off the ground.

Whatever you do, do it slowly and easily. Under normal conditions, your body loses about a quart of water a day through sweating and urinating. But you can easily double that water loss by digging to make shelter, walking, jumping, or

striping your clothes off in desert heat. Two or three days of water loss can be enough to kill you.

Water is a critical need. How do you find it in the middle of a desert? Start with your car if you have one. Your car's cooling system is filled with water. It's drinkable as long as it has no antifreeze in it. Remember, too, there is water in the desert if you know how to look. One source is the cactus plant. The squat, rounded barrel cactus is one of the best sources for cactus water. Cut off its top and crush the insides into a cup. The water may be milky-looking, but it can keep you alive.

Sometimes you can find water holes in the desert. Even muddy water tastes okay when you're thirsty. You can harvest good water in the form of dew drops from car hoods. Do this early in the morning. Wipe the metal surface with a piece of cloth, and then wring the water from the cloth into a container.

The more plants you see, the more chance you can find something to eat. Not all plants are safe, however. If you're not sure whether a plant is poisonous, don't eat much of it at first. Pluck off a piece about the size of a pea. Does it taste sharply bitter? Does it make your tongue numb? If so, throw it away. If it tastes all right, eat the small piece and wait as long as possible to see how your stomach reacts. If you still feel well after a day, go back to the plant and eat a little bit more. Take it easy and try to vary your diet.

New Words and Expressions

rage /reɪdʒ/ *vi.* 动怒
wring /rɪŋ/ *vt.* 绞，拧
shiver /'ʃɪvə/ *vi.* 战栗，发抖
lizard /'lɪzəd/ *n.* 蜥蜴
rescuer /'reskjʊə/ *n.* 救助者
shrub /ʃrʌb/ *n.* 灌木
strip /strɪp/ *vt.* 除去，剥去
antifreeze /'æntɪ'fri:z/ *n.* 防冻剂
cactus /'kæktəs/ *n.* 仙人掌
dew /dju:/ *n.* 水珠，露水
hood /hʊd/ *n.* 车篷；引擎罩
pluck /plʌk/ *vt.* 采，摘

Warming-up Activities

I. Answer the following questions according to the text.

1. Can you describe a typical desert setting based on the beginning of the text?

2. What is the first thing you must remember when trapped in a desert? Why?

3 What do you need to pay attention to when you sit or sleep?

4 How can you get water from different sources?

5 How can you make sure that the plant you eat will not poison you?

6 Sum up how you can meet the basic physical needs while waiting for the rescuers to arrive.

II. Learn the use of idiomatic expressions with the help of a dictionary.

Water

1. Don't ***pour cold water on*** the plan; it has some good points.
2. His explanation of why he's been late so many times just doesn't ***hold water***.
3. I must have told him a hundred times, and he always forgets — it'***s like water off a duck's back.***
4. Look, it'***s all water under the bridge*** now. Let's leave it behind us.

Text A

Basic Human Needs: Oxygen and Elimination

Basic human needs are needs for those things such as food, water, safety, and love. Although each person has other, unique needs, these basic human needs are shared by all people, and the extent to which a person's health needs are met is a major factor in determining a person's level of health.

Among various basic human needs, physiological needs have the highest priority. An individual who has several unmet needs generally seeks first to fulfill physiological needs. Physical needs are needs for things necessary or important for survival. Humans have eight such basic needs: oxygen, fluid, nutrition, temperature, elimination, shelter, rest and sex.

The very young, the very old, the ill, and the handicapped frequently depend on others for assistance in meeting their basic physiological needs. The following concerns some of such needs and how the nurse can help the client to meet these needs.

Oxygen

Oxygen is the most essential need. The body depends on oxygen for moment-to-moment survival. Certain tissues, such as skeletal muscles, can survive for a time without oxygen through anaerobic metabolism, a process by which these tissues provide their own energy in the absence of oxygen. Tissues that carry out only aerobic metabolism, the process of providing energy in the presence of oxygen, depend totally on oxygen for survival. The brain, for example, cannot function without oxygen for longer than 4 or 5 minutes.

For the various body tissues to receive necessary oxygen, oxygen must be adequately delivered from the environment to the lungs, the blood stream, and finally the tissues. At any point in the life span, clients are at risk for not meeting their oxygen needs. The need can be acute, as with cardiac arrest, or chronic, as in a long-term smoker with emphysema.

Nurses continually evaluate clients' oxygenation to determine whether this need is being met. The assessment of the client's need for oxygen is basically the same in chronic and acute situations. The client may be confused or lethargic because of a low level of oxygen in the blood and tissues. Other signs of inadequate oxygenation include nasal flaring and retractions, inability to lie flat, or rapid breathing.

Clients with a progressive long-term decrease in tissue oxygen show cyanosis, the bluish discoloration of the skin and mucous membranes caused by decreased oxygen in the blood. Because cyanosis is the late sign of poor oxygen, the nurse should be aware of the earlier, more subtle indicators of decreased oxygen.

Nursing interventions to care for clients with low oxygen levels include having the client breathe into a paper bag to combat hyperventilation, reassuring, teaching, and counseling clients to decrease anxiety, helping the client rest comfortably to ease breathing, and emergency cardiopulmonary resuscitation in cases when the client has stopped breathing.

Elimination

The elimination of waste materials from ingested food is one of the metabolic processes of the body. Waste products are eliminated by the lungs, skin, kidneys, and intestines.

The lungs primarily eliminate carbon dioxide. If a client has difficulty eliminating it, nursing measures are needed to prevent severe impairment or death. The water eliminated by the lungs with every respiratory cycle amounts to about 200 ml a day. The nurse considers this amount in calculating the fluid needs of a dehydrated client.

The skin eliminates water and sodium, most noticeably in the form of sweat. Sweat also assists in temperature regulation. Sweat cannot always be seen, but the skin excretes water continuously, approximately 200 ml a day. A client with fever or prolonged exposure to hot humid weather has an increased water loss from the skin. The kidneys are the body's primary means of excreting excess body fluids, electrolytes, hydrogen ions, and acids. Urinary elimination normally depends on fluid intake and circulatory blood volume; if either is decreased, urinary output decreases. Urinary output is also changed in persons with kidney disease. Severe kidney disease can be life threatening.

The intestines eliminate solid waste products and some fluid from the body. The ability

to completely control elimination of solid waste by bowel evacuation occurs at about 30 to 36 months of age.

A client whose urinary elimination needs are unmet may be incontinent. Unmet urinary elimination needs also result in fluid and electrolyte imbalances. A fluid volume loss such as that occurring with dehydration or shock may lead to imbalance in waste products eliminated by the kidney. Electrolyte imbalance may result from an acute or chronic kidney disorder.

A client's unmet needs for bowel elimination may lead to changes in elimination patterns or diet patterns. Changes in bowel elimination patterns include incontinence, constipation, and diarrhea.

Nursing intervention may be simple, such as providing privacy or changing the diet, or complex, such as inserting a catheter or administering a soapsuds enema.

New Words and Expressions

unmet /ʌn'met/ *adj.* 未满足的
skeletal /'skelɪtl/ *adj.* 骨骼的
anaerobic /ˌæneɪə'rəʊbɪk/ *adj.* 无氧的
span /spæn/ *n.* 跨度，一段时间
emphysema /ˌemfɪ'siːmə/ *n.* 肺气肿
oxygenation /ˌɒksɪdʒɪ'neɪʃən/ *n.* 氧化
assessment /ə'sesmənt/ *n.* 评估；评价
lethargic /le'θɑːdʒɪk/ *adj.* 昏睡的
cyanosis /ˌsaɪə'nəʊsɪs/ *n.* [病理]发绀；苍白病；黄萎病
subtle /'sʌtl/ *adj.* 微妙的；敏感的
hyperventilation /ˌhaɪpə(ː)ventɪ'leɪʃən/ *n.* 换气过度，强力呼吸
impairment /ɪm'peəmənt/ *n.* 损害，损伤
evacuation /ɪˌvækjʊ'eɪʃən/ *n.* 排泄
incontinent /ɪn'kɒntɪnənt/ *adj.* （大小便）失禁的
dehydration /ˌdiːhaɪ'dreɪʃən/ *n.* 脱水
constipation /ˌkɒnstɪ'peɪʃən/ *n.* 便秘
catheter /'kæθɪtə/ *n.* 导尿管
enema /'enɪmə/ *n.* 灌肠(剂)
cardiac arrest 心脏停搏
nasal flaring 鼻翼扇动
cardiopulmonary resuscitation 心肺复苏

Notes To The Text

1. Although each person has other, unique needs, these basic human needs are shared by all people, and the extent to which a person's health needs are met is a major factor in determining a person's level of health.

尽管每个人有其他独特的需求，所有人都会有这些基本的人类需求。而多大程度上一个人的健康需求得到满足则是决定一个人健康水平的重要因素。

本句结构较为复杂，尤其是后面一句。其中the extent to which a person's health needs are met为句子主语，其中心词为the extent，定语从句to which a person's health needs are met修饰extent。

② Other signs of inadequate oxygenation include nasal flaring and retractions, inability to lie flat, or rapid breathing.
氧气不足的其他迹象包括鼻翼扇动和回缩、无法平躺或者呼吸急促。
注意句中的“多枝共干”现象，即nasal flaring and retractions逻辑上等于nasal flaring and nasal retractions。

③ The ability to completely control elimination of solid waste by bowel evacuation occurs at about 30 to 36 months of age.
30至36月龄婴儿具备完全控制由排便方式排出固体废物的能力。
注意本句主语为：The ability to completely control elimination of solid waste by bowel evacuation，其中elimination of solid waste by bowel evacuation为具有逻辑动宾关系的名词词组，本身做不定式短语to completely control的宾语。

Text Comprehension

I. Choose the best answers to the following questions.

1. How do we define basic human needs?
   A. Those needs shared by all people.
   B. The unique needs each individual has.
   C. The needs necessary for health and happiness.
   D. Needs concerned with physiology and psychology.
2. Which of the following statements is NOT true according to the text?
   A. Brain tissue cannot survive without oxygen for long.
   B. Man can survive without oxygen through anaerobic metabolism.
   C. Some human tissues can survive without oxygen for some time.
   D. Tissues have different needs for oxygen.
3. Which of the following is NOT true in terms of tissues receiving necessary oxygen?
   A. Oxygen must be delivered from the outside environment to the tissues.
   B. There is a risk for inadequate delivery of oxygen at any time of one's life.
   C. Unmet need for oxygen may either be acute or chronic.
   D. Cardiac arrest and emphysema result from inadequate supply of oxygen.
4. Which of the following is NOT a sign that a client may have unmet need for oxygen?
   A. The client seems to be confused or lethargic.
   B. The client is unable to lie down and breathes rapidly.
   C. The client's mucous membrane is red and dry.
   D. The client's skin shows a bluish color.

5. Which of the following is NOT a proper nursing intervention for patients with low oxygen level?
   A. Having the client breathe into a paper bag to combat hyperventilation.
   B. Reassuring, teaching, and counseling clients to decrease anxiety.
   C. Helping the client rest comfortably to ease difficulty in breathing.
   D. Carrying out cardiopulmonary resuscitation immediately.

II. Decide whether each of the following statements is True (T) or False (F) according to the text.

1. Waste products are eliminated by several different organs.
2. The lungs eliminate both carbon dioxide and water.
3. A client with fever or prolonged exposure to hot humid weather should limit the intake of fluids.
4. The kidneys play a major role in removing excess body fluids, electrolytes, hydrogen ions, and acids from the body.
5. Elimination of water from the kidneys remains relatively constant regardless of the amount of fluid one takes.
6. An acute or chronic kidney disorder may result in fluid and electrolyte imbalances.
7. Problems of bowel elimination may affect a client's bowel elimination patterns or diet patterns.
8. Inserting a catheter or administering a soapsuds enema is a simple way to help clients with bowel elimination problems.

Vocabulary

I. Fill in the blanks with the proper form of the words given.

intake	**output**	**prolong**	**fulfill**
lethargic	**concern**	**deliver**	**arrest**

1. Overdose can lead to cardiac _____ , doctors say.
2. I'll have some flowers _____ to the bedside of the patient.
3. The operation could _____ his life by two or three years.
4. A nurse has many duties to _____ in caring for the sick.
5. The average daily dietary _____ of calories is 2,952 Kcal per person.
6. The hot and humid weather was making us all _____ .
7. The worsening problem of air pollution _____ the health of all who live on this planet.
8. The heat _____ can be adjusted easily by sweating.

II. Choose the correct word to complete each of the following sentences.

1. After only a short _____ to sunlight he began to turn red.
   A. access B. contact C. impairment D. exposure
2. It is doctors' responsibility to treat patients and protect their _____ and dignity.
   A. privacy B. efficiency C. dependency D. normalcy
3. Frequent use of laxatives disrupts the body's natural elimination patterns and may cause _____.
   A. obstruction B. constipation C. evacuation D. destruction
4. When a patient suffers from acute _____, the nurse assesses the patient for symptoms of dehydration, such as dry skin, and decreased urine output.
   A. enema B. edema C. diarrhea D. uremia
5. The elimination of waste materials is one of the _____ processes of the body.
   A. aerobic B. anaerobic C. characteristic D. metabolic

Grammar and Structure

I. In the following sentences, the italicized part is used *appositionally*, giving a more detailed explanation of the word or phrase before it. Point out the appositional construction in the sentences below.

Models:

Certain tissues, such as skeletal muscles, can survive for a time without oxygen through anaerobic metabolism, *a process by which these tissues provide their own energy in the absence of oxygen*.

Tissues that carry out only aerobic metabolism, *the process of providing energy in the presence of oxygen*, depend totally on oxygen for survival.

1. Clients with a progressive long-term decrease in tissue oxygen show cyanosis, the bluish discoloration of the skin and mucous membranes caused by decreased oxygen in the blood.

_____

2. Hypothermia, the opposite of fever, is caused mainly by prolonged exposure to cold, rarely by abnormal conditions within the body

_____

3. Among the most important of the large collections of nerve fibers is the internal capsule, a crowded strip of white matter where any injury is apt to cause extensive damage.

_____

II. Complete each of the following sentences by fitting in an *adverbial clause of condition.*

A. if a client has difficulty eliminating excess carbon dioxide
B. unless something is done to restore circulation immediately
C. as long as it has no antifreeze in it
D. provided (that) water is available

1. Water in your car's cooling system is drinkable _____ .
2. _____ , nursing measures are needed to prevent severe impairment or death.
3. One can survive quite a long while without food _____ .
4. The victim of chock will die very quickly _____ .

Translation

I. Translate the following sentences into English.

1. 水和空气是维持生命的最基本需求。

2. 除了物质上的基本需求外，人类还有情感需求。

3. 严重的缺氧使他面色苍白，口唇发紫。

4. 医生和护士正在对伤员进行心肺复苏。

5. 医生再三督促他要养成规律的排便习惯。

Text B

Urinary Elimination

Many nursing measures have been designed to promote normal voiding in clients at risk for urination difficulties and in clients with established urination problems. The nurse can initiate many of the measures independently.

Stimulating Micturition Reflex

The client's ability to void depends on feeling the urge to urinate, on being able to control the urethral sphincter, and on being able to relax. The nurse can help foster relaxation and stimulate the reflex to void by helping clients assume the normal position for voiding. Females are better able to void in a squatting position. This position promotes contraction of the pelvic and intra-abdominal muscles that assist in sphincter control and bladder contraction. If the client is unable to use a toilet, the nurse positions the client on a bedpan or bedside commode. The male client voids more easily in the standing position. At times it may be necessary for one or more nurses to assist the male client to stand. If the male client cannot reach a toilet, he may stand at the bedside and void into a urinal. Other measures that promote normal micturition for all clients include the use of sensory stimuli (e.g. the sound of running water, putting a client's hand in a pan of warm water, or stroking the female client's inner thigh). Each tends to promote relaxation and the reflex to void.

Maintaining Elimination Habits

Many clients follow set routines of normal voiding. In a hospital or long-term care facility the nurse's routines may conflict with those of the client. Integrating the client's habit into the plan of nursing care fosters a more normal voiding pattern.

The client usually requires time to void. The client should be given at least 30 minutes. The nurse must learn the times when a client normally voids and then offer the opportunity to use a toilet at those times. Also important in timing is the need to respond to the client's urge to urinate. Delay in assisting the client to the bathroom may interfere with normal micturition.

Privacy is essential for normal voiding. If the client cannot reach the bathroom, the nurse makes sure the bedside area is made private. In the home the debilitated client may prefer using a bedside commode enclosed behind a partition or room divider. Some clients are embarrassed by the sound of voiding. Running water or flushing the toilet masks the sound effectively. Often young children are unable to void in the presence of persons other than parents.

If the client typically uses special measures to void (e.g. reading, listening to music), the nurse should encourage their continued use at home and, when possible, in the institution.

Maintaining Adequate Fluid Intake

A simple method of promoting normal micturition is maintaining a good fluid intake. A client with normal renal function who does not have heart disease or alterations requiring fluid restriction should drink 2,000 to 2,500 ml of fluid daily. When fluid intake is increased, the excreted urine flushes out any solutes or particles that may collect in the urinary system. Because a client is unlikely to be willing to drink 2,500 ml or water daily, the nurse should offer fluids the client prefers. At home it may be helpful to set a schedule for drinking fluids (e.g. with meals or medications). To prevent nocturia, fluids should not be taken just before bedtime.

Promoting Complete Bladder Emptying.

Clients with urinary retention and incontinence are frequently unable to empty the bladder fully. Measures that promote micturition may help, but additional techniques are useful to foster bladder emptying.

New Words and Expressions

urination /ˈjʊərɪˈneɪʃən/ *n.* 排尿
micturition /ˌmɪktjʊəˈrɪʃən/ *n.* 排尿
squat /skwɒt/ *vi.* 蹲
commode /kəˈməʊd/ *n.* 便桶
urinal /ˈjʊərɪnl/ *n.* 尿壶
thigh /θaɪ/ *n.* 股，大腿
reflex /ˈriːfleks/ *n.* 反应能力；反射作用
alteration /ˌɔːltəˈreɪʃən/ *n.* 变化，改变
renal /ˈriːnl/ *adj.* 肾脏的
solute /ˈsɒljuːt/ *n.* 溶解物
nocturia /nɒkˈtjʊərɪə/ *n.* 夜尿症，遗尿症
normal voiding 正常排尿

Review and Practice

I. Choose the best answers to the following questions according to the text.

1. Who are clients with established urination problems?
   A. Clients who have a tendency to have urination problems.
   B. Clients who may develop potential urination problems.
   C. Clients who have already had urination problems.
   D. Clients who are at high risk for urination problems.
2. Which of the following is NOT a factor that influences the client's ability to void?
   A. Whether or not the client can go to the toilet alone.
   B. Whether or not the client feels the urge to urinate.
   C. Whether or not the client can control the urethral sphincter.
   D. Whether or not the client can relax.
3. Which of the measures can be used to promote relaxation and the reflex to void?
   A. Helping clients assume the normal position for voiding.
   B. Making sounds similar to the sound of running water.
   C. Putting a client's hand in a pan of warm water.
   D. All of the above.
4. Which of the details should a nurse pay attention to in helping a client to void?
   A. Encouraging the client to establish routines of voiding.
   B. Considering the client's habit when making care plans.
   C. Requiring the client to finish voiding within a short time.
   D. Offering clients the opportunity to void several times a day.
5. Which of the following statements about urinating is RIGHT?
   A. Privacy is essential for normal voiding whether in the bathroom or at the bedside.
   B. Young children do not seem to feel the need for privacy when urinating.
   C. Clients should form the habit of doing nothing when urinating.
   D. Keeping the toilet room clean can make voiding quicker.

II. Answer the following questions according to the text.

1. How much water should a client with no need for fluid restriction drink daily?

2. Why is it advisable or even necessary to drink so large an amount of water?

3. How can nurses encourage the client to take enough water in a healthcare setting and at the home setting?

4. Can you explain briefly what urinary retention and urinary incontinence mean?

III. Translate the following sentences into Chinese.

1. The client's ability to void depends on feeling the urge to urinate, on being able to control the urethral sphincter, and on being able to relax.

2. Other measures that promote normal micturition for all clients include the use of sensory stimuli (e.g. the sound of running water, putting a client's hand in a pan of warm water, or stroking the female client's inner thigh).

3. In the home the debilitated client may prefer using a bedside commode enclosed behind a partition or room divider.

4. A client with normal renal function who does not have heart disease or alterations requiring fluid restriction should drink 2,000 to 2,500 ml of fluid daily.

Word Building

More than anything else, humans need oxygen and water for survival. The word element *oxy-* refers to oxygen, and *hydro-* refers to water or hydrogen.

Guess the meaning of the following words from the word elements in them.

oxyacid	oxyhemoglobin	oximeter	antioxidant
hydroneumonia	hydrophthalmia	hydremia	hydrocardia

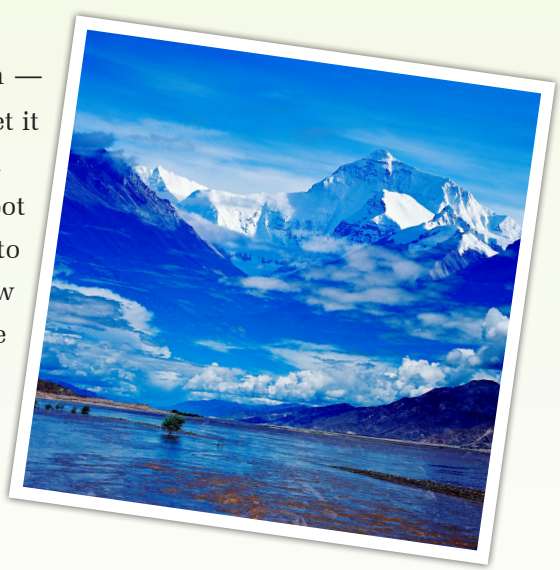
Unit Twelve

Meeting The Basic Human Needs (2)

Warming-up

What do you do if you are trapped on the top of a mountain covered with snow? Here, snow, elsewhere a welcome sight to many people, can be your real enemy. But you can also turn snow into your friend if you know how.

Survival on Snow-Covered Mountains



On a snow-covered mountain, water is no problem — clean melted snow is safe to drink, but don't take it cold. Let it melt in a cup or, better yet, heat it over a fire until it steams.

Snow can also provide a good shelter. Find a level spot if possible and dig a hollow space big enough for you to disappear beneath the surface. If you scoop out the hollow beneath a low-lying tree branch, you'll have a ready-made roof.

If you have materials to make a fire, scoop out an extra space in the snow so that you and the fire are in the same hollow. Make a wall of logs, if you can, behind the fire, so heat will be reflected toward you.

Start to build your shelter several hours before nightfall; that will give you time to do it right. If there are enough tree branches, make yourself a bed of boughs to keep your body raised several inches off the ground. Without the bed of branches, the ground will drain

away your body's warmth, which can be dangerous.

One of the dangers is called hypothermia — a sudden major drop in body temperature. It strikes when your body is no longer able to keep itself heated. You're particularly easy prey to hypothermia when you're cold and tired. The first symptom is violent shivering. After that, hypothermia victims often don't know what's happening to them. Another symptom is slurred speech. Muscles tighten and sometimes the skin gets blue. In later stages, the victim passes out.

If you're with someone who begins showing these symptoms, move fast. People have been known to die from hypothermia within two hours, but quick action can prevent death. What should you do? Warm the victim up however you can.

One young woman out on a winter camping trip began shivering one night as she sat with friends near the entrance of a chilly cave. Within a few minutes, she had begun to talk nonsense. The two women with her wasted no time. They opened their jackets and held her close to share the warmth of their bodies. They also heated water over the fire in the cave and forced the woman to drink, to warm her inside. And they kept the woman talking and sitting up, even though she just wanted to go to sleep. In a short time, the symptoms began to disappear. The woman's body recovered its ability to warm itself up. Her friends — because they knew about hypothermia — had saved her life.

New Words and Expressions

scoop /skuːp/ *vt.* 舀；挖空；掏
shelter /ˈʃeltə/ *n.* 掩体；避难所
bough /baʊ/ *n.* 大树枝
hypothermia /ˌhaɪpəʊˈθɜːmɪə/ *n.* 低体温
prey /preɪ/ *n.* 被捕食的动物；受害者
slur /slɜː/ *vi.* 含糊地发音
talk nonsense 胡说八道；胡言乱语
pass out 昏厥

Warming-up Activities

I. Answer the following questions according to the text.

1. How can you satisfy your needs for water and shelter in a snow-covered mountain?

2. Why should you keep your body raised off the ground?

3 What are the symptoms of hypothermia?

4 How can you help a hypothermia victim?

5 Retell the story given in the last paragraph.

II. Learn the use of idiomatic expressions with the help of a dictionary.

Life

1. I can never understand why some young people, with much to live for, ***took their own lives***.
2. Anyone can ***lead a happy life*** whether he is severely disabled or temporarily left behind.
3. Whether prompt action can be taken is ***a matter of life and death***.
4. Those bad memories are all past history; I just want to ***make/start a new life***.

Text A

Basic Human Needs: Fluids, Nutrition, and Body Temperature

Fluids

The human body requires a balance between the intake and output of fluids. Fluids are taken in by mouth or parenterally by administration into a vein or other area, and fluids leave the body from the intestines, lungs, and skin and as urine from the kidneys. Clients of any age can have unmet fluid needs, but the very young, the very old, severely ill, traumatized and the handicapped are more likely to have unmet fluid needs.

Two conditions indicate unmet fluid needs: dehydration and edema. Dehydration is the excess loss of water from the body tissues, which my result in a disturbance of body electrolytes. Dehydration may result from any condition that causes a rapid fluid loss. Edema is the abnormal pooling of fluid in interstitial spaces of tissues, the pericardial sac, the intra pleural space, the peritoneal cavity, or joint capsule. With a disturbance of body electrolytes edema may occur in any disorder that results in a rapid pooling of fluids.

The nurse examines clients for an acute or potential fluid imbalance. A number of signs and symptoms can reveal dehydration: poor skin turgor, flushed dry skin, decreased tearing or salivation, coated tongue, decreased urine output, confusion and irritability.

Because of the fluid and associated electrolyte imbalance, the mental status is altered, and the client may be irritable and confused. In cases of severe dehydration the client may even be comatose. Edema may be caused by decreased serum protein, severe burns, altered functioning of the cardiovascular, renal, or hepatic system, or drugs. Edema is first observed in the feet and legs, since they are the most dependent regions of the body. To determine whether edema is present, the nurse applies light fingertip pressure to the suspected region and watches to see if the fingertip leaves an imprint on the skin. The client with edema may also have a daily weight gain, shortness of breath, or an increased heart rate. The skin of a client with excessive body fluids is smooth and shiny and very susceptible to breakdown.

The overall nursing goal for clients with unmet fluid needs is to restore body fluid and electrolytes balances to normal. The nurse uses simple or complex measures to meet this goal, such as increasing oral intake of fluids, giving intravenous fluids, restricting the intake of fluids, or helping eliminate fluids.

Nutrition

The human body has an essential need for nutrients, although the body can survive without food longer than without oxygen and fluids.

The metabolic processes of the body control the digestion and storage of nutrients and the elimination of waste products. The digestion and storage of nutrients are essential in meeting the body's nutritional demands. An alteration in digestion, storage, or elimination can lead to imbalances in the body.

To determine whether a client is meeting nutritional needs, the nurse considers many factors, including body weight, measurement of body muscle mass, laboratory data and food intake patterns. Signs and symptoms of nutritional imbalance include a failure to grow or gain weight, unplanned weight loss, fatigue, pallor, and recurring mouth and gum sores. Nurses can assist clients to meet nutritional needs through teaching and providing appropriate supplements and therapeutic diets.

Body Temperature

The body can function normally within only a narrow temperature range, between 35℃ (97F) and 41℃ (106F). Body temperatures outside this range can result in impairment, permanent effects such as brain damage, or death.

The body can temporarily regulate its temperature by certain mechanisms, for example, conserving heat by shivering. Nurses care for clients with conditions related to both heat and cold exposures. When the body is unable to regulate its temperature, severe illness or death may result. Rapid change in temperature or exposure to temperature extremes is most critical for the very young, the very old, and the chronically ill.

The body has a physiological response to extreme environmental temperatures. Prolonged exposure to cold decreases the body's rate of metabolism and use of oxygen.

Prolonged exposure to heat increases the body's metabolic activity and increases tissue oxygen demand.

Nursing care for clients exposed to extreme heat or cold is directed toward restoring normal body temperature and temperature regulation. In addition, the nurse helps clients avoid exposure to heat or cold. Nursing interventions include warming a frostbitten area and giving sponge baths for sunstroke.

New Words and Expressions

parenteral /pæ'rentərəl/ *adj.* 肠胃外的
traumatize /'trɔ:mətaɪz/ *vt.* 使受外伤
interstitial /ˌɪntə(:)'stɪʃəl/ *adj.* 间质的，空隙的
peritoneal /perɪtə'ni:ə/ *adj.* 腹膜的
turgor /'tɜ:gə/ *n.* 细胞（组织）的膨胀；肿胀
salivation /ˌsælɪ'veɪʃən/ *n.* 分泌唾液
irritability /ˌɪrɪtə'bɪlətɪ/ *n.* 易怒
comatose /'kəʊmətəʊs/ *adj.* 昏迷的
hepatic /hɪ'pætɪk/ *adj.* 肝脏的
imprint /ɪm'prɪnt/ *n.* 痕迹
pallor /'pælə/ *n.* （脸色等的）苍白
therapeutic /θerə'pju:tɪk/ *adj.* 有益于健康的
conserve /kən'sɜ:v/ *vt.* 保护，保存
frostbite /'frɒstbaɪt/ *vt.* 使冻伤
sunstroke /'sʌnstrəʊk/ *n.* 中暑，日射病

Notes To The Text

1. With a disturbance of body electrolytes edema may occur in any disorder that results in a rapid pooling of fluids.
当机体电解质发生紊乱时，浮肿就可能出现于任何导致体液快速淤积的疾病。
句中with a disturbance of body electrolytes为介词短语表示伴随情况，that results in a rapid pooling of fluids为定语从句修饰disorder。

2. A number of signs and symptoms can reveal dehydration: poor skin turgor, flushed dry skin, decreased tearing or salivation, coated tongue, decreased urine output, confusion and irritability.
一些体征和症状可以提示脱水，如皮肤充盈度减弱、皮肤潮红干燥、泪量或唾液分泌减少、舌苔厚腻、尿量减少、意识模糊以及容易发怒。

3. To determine whether a client is meeting nutritional needs, the nurse considers many factors, including body weight, measurement of body muscle mass, laboratory data and food intake patterns.
要判断患者是否营养需求达标，护士会考虑诸多因素，包括体重、身体肌群状况、实验室数据以及患者食物摄入模式。

Text Comprehension

I. Choose the best answers to the following questions.

1. Which of the following is NOT a sign of dehydration?
   A. Bluish skin and increased salivation.
   B. Decreased urine output.
   C. Confusion and irritability.
   D. Reddish dry skin and coated tongue.
2. Which of the following statements about edema is WRONG?
   A. Signs of edema are first noticed in the lower extremities.
   B. Clients with edema may experience shortness of breath or an increased heart rate.
   C. The skin of a client with edema is smooth, shiny, and susceptible to breakdown.
   D. The fingertips of a client with edema are swollen and insensitive to pain.
3. When assessing whether a client meets nutritional needs, the nurse should _____ .
   A. consider such factors as laboratory data and clients' eating patterns
   B. keep a record of a client's body weight, size, and height
   C. provide appropriate supplements and nutritious diets
   D. watch out for obvious signs of nutritional imbalance
4. Which of the following is NOT a sign of nutritional imbalance?
   A. Unexpected or unexplainable weight loss.
   B. Failure to grow or gain weight.
   C. Occasional mouth and gum sores.
   D. Fatigue and paleness of skin.
5. Which of the following statements is TRUE according to the last paragraph?
   A. Prolonged exposure to cold decreases the body's rate of metabolism.
   B. Prolonged exposure to cold increases the body's use of oxygen.
   C. Prolonged exposure to heat decreases the body's metabolic activity.
   D. Prolonged exposure to heat decreases tissue oxygen demand.

II. Decide whether each of the following statements is True (T) or False (F) according to the text.

_____ 1. The body can function normally within only a narrow temperature range beyond which serious consequences can occur.
_____ 2. Human body can effectively regulate its temperature according to the environmental temperature.
_____ 3. Shivering is a way in which the body tries to cool itself.
_____ 4. The old and young have a relatively weak mechanism in temperature regulation.
_____ 5. Death will result if the body loses the ability to control temperature.

Vocabulary

I. Fill in the blanks with the proper form of the words given.

function	regulate	supplement	conserve
intervention	sign	confusion	restrict

1. He feels that living in hospital _____ his freedom.
2. Thermostats can be used to _____ the temperature of a room.
3. There is some _____ about what the correct procedure should be.
4. People living in the desert have a special way to _____ water.
5. Adjusting your tie is often a _____ of nervousness.
6. The human body is capable of handling temporary imbalances without outside _____ .
7. The patient is feeling better which means the medicine is _____ properly.
8. You should always consult your doctor before starting any food _____ .

II. Choose the correct word to complete each of the following sentences.

1. The effects of a serious stroke are usually _____ and can not be reversed.
   A. permanent B. appropriate C. relevant D. assistant
2. Immediate action is _____ for the successful treatment of sunstroke, an acute and dangerous reaction to heat exposure.
   A. critical B. functional C. physiological D. therapeutic
3. If severe pain around the chest _____ , take these tablets and see the doctor immediately.
   A. shivers B. recurs C. drains D. restores
4. Even a _____ case of hepatitis should be reported to the health authorities.
   A. traumatized B. handicapped C. suspected D. reflected
5. One kind of peritonitis is caused by the escape of bile into the _____ cavity.
   A. parenteral B. peritoneal C. interstitial D. thoracic

Grammar and Structure

I. Rewrite the sentences below by following the model given.

Model:

It is important for the nurse to examine clients for an acute or potential fluid imbalance.
It is important that the nurse (should) examine clients for an acute or potential fluid imbalance.

1. It is important for the health worker to check respiratory rates and record them properly.

2. It is essential for the patient to be kept warm in case of shock.

3. It is necessary for a plug to be inserted into the bleeding nose in order to encourage adequate clotting.

4. It is important for the pacemakers to be replaced as required to prevent mechanical failure.

II. Complete each of the following sentences by fitting in an *adverbial clause of comparison*. Note that part of the clause may be omitted.

A. than can be replaced	D. as it is to assure an adequate supply of oxygen
B. than (it does) without oxygen and fluids	E. as is necessary for life
C. than are required to combat infection	F. as it is that too much acidity be prevented

1. The body can survive without food longer _____ .
2. It is just as important to provide ease of exhalation to remove carbon dioxide _____ .
3. When the body is immersed in cold water for a time, the water (a better heat conductor than air) removes more heat from it body _____ , and the body temperature falls.
4. In the lung the surface in contact with gases approximates 60 square meters, about three times as much lung tissue _____ .
5. It is just as important for the blood and other tissues that an excess of alkalinity be avoided _____ .
6. Nature has furnished the human organism with thousands of lymph nodes, many more _____ .

Translation

I. Translate the following sentences into English.

1. 感染和体液不足是大面积烧伤病人面临的主要问题。

2. 腹泻造成的大量肠液丢失会加剧病人的电解质失衡。

3. 某些营养素的缺乏会导致儿童生长迟缓。

4. 他的头部外伤可能影响了大脑体温调节机制。

5. 护士正在对他冻伤的双手进行逐步复温。

Text B

Effects of Extreme Heat and Cold

The body's heat-regulating devices are efficient, but there is a limit to what they can accomplish. If the outside temperature is too high, one may perspire so much that dehydration and heat exhaustion can result. Heat exhaustion is a condition caused by excessive salt loss, and its symptoms include muscle cramps, dizziness, vomiting and fainting. This condition usually can be forestalled by taking salt tablets in hot weather.

Sunstroke (sometimes called heat stroke) also is caused by high outside temperatures. It differs from heat exhaustion in that one of the heat regulators is affected; namely, the sweat glands. Dehydration begins a chain of events which terminates in decreased blood supply to the skin and diminished secretion of perspiration. As a consequence, the body temperature rockets up to a level that can be fatal. The victim of sunstroke exhibits many of the symptoms of heat exhaustion (i.e. dizziness, fainting) but with this significant difference: there is an absence of perspiration; the skin is dry and flushed. Sunstroke is an extremely serious emergency. The most important first-aid measure is to lower the temperature; otherwise permanent brain damage can result. Cooling of the body is accomplished by immersing the victim in cool water or else by spraying him with it. Ice should be applied to the head, and cold drinks administered if the patient is conscious.

The body is no more capable of coping with prolonged exposure to cold than to heat. If, for example, the body is immersed in cold water for a time, the water (a better heat conductor than air) removes more heat from the body than can be replaced, and the body temperature falls. This can happen too, of course, in cold air — particularly when clothing is inadequate. An excessively low body temperature is termed hypothermia, and its main effects are lowered respiratory rate and blood pressure and a feeling of drowsiness finally ending in coma and perhaps death. Hypothermia, the opposite of fever, is caused mainly by prolonged exposure to cold, rarely by abnormal conditions within the body.

Exposure to cold, particularly to moist cold, can cause permanent local tissue damage. The areas most likely to be affected by cold are the face, the ears and the extremities. The usual reason for these injuries is that the cold causes a spasm of the smooth muscle of the arteriole walls, diminishing the blood supply to the area. This condition causes interference with cell nutrition and metabolism; and necrosis of the tissues with gangrene can result. Examples of cold damage are chilblains (localized itching and painful red areas on the skin), frostbite and immersion foot or trench foot. The very young, the very old, and those who suffer from disease of the circulatory system are particularly susceptible to cold injuries.

A frostbitten area should never be rubbed, but should be thawed by wrapping in blankets or by immersion in warm water. The affected area should be treated gently; if the feet are frostbitten, the victim should not be permitted to walk.

Hypothermia is employed in certain types of surgery. In such causes the hypothalamus is depressed by drugs and the body temperature may be reduced to 77F (25℃) before the operation is begun. Then, in the case of heart surgery, further cooling down to 68F (20℃), is accomplished as the blood goes through the heart-lung machine. This has been successful even with tiny infants suffering from congenital heart abnormalities.

New Words and Expressions

perspire /pəs'paɪə/ *vi.* 出汗，流汗
exhaustion /ɪg'zɔːstʃən/ *n.* 疲惫，衰竭
cramp /kræmp/ *n.* 痛性痉挛，抽筋
faint /feɪnt/ *vi.* 头晕，昏厥
forestall /fɔː'stɔːl/ *vt.* 预先阻止
spasm /'spæzəm/ *n.* 痉挛；抽搐
necrosis /ne'krəʊsɪs/ *n.* 坏死
gangrene /'gæŋgriːn/ *n.* 坏疽
chilblain /'tʃɪbleɪn/ *n.* 冻疮
itch /ɪtʃ/ *v.* 痒，发痒
thaw /θɔː/ *vt.* 使融化，使缓和
rocket up 飞涨

Review and Practice

I. Sum up information about *heat exhaustion* and *sunstroke*.

Heat exhaustion

Cause _____

Symptoms _____

Treatment _____

Sunstroke

Cause _____

Symptoms _____

Treatment _____

II. Answer the following questions according to the text.

1. What are the main effects of hypothermia?

2. How does hypothermia usually occur?

3. Describe the series of steps leading to cold injuries when the body is exposed to severe cold.

4. How should we provide care for a frostbitten area?

5. Can you explain why the very young, the very old, and those who suffer from disease of the circulatory system are particularly susceptible to cold injuries?

III. Translate the following sentences into Chinese.

1. The victim of sunstroke exhibits many of the symptoms of heat exhaustion (i.e. dizziness, fainting) but with this significant difference: there is an absence of perspiration; the skin is dry and flushed.

2. If, for example, the body is immersed in cold water for a time, the water (a better heat conductor than air) removes more heat from the body than can be replaced, and the body temperature falls.

3. An excessively low body temperature is termed hypothermia, and its main effects are lowered respiratory rate and blood pressure and a feeling of drowsiness finally ending in coma and perhaps death.

4. The usual reason for these injuries is that the cold causes a spasm of the smooth muscle of the arteriole walls, diminishing the blood supply to the area.

Word Building

Nutrition is such an important basic need that we should at least be familiar with the word elements referring to different kinds of nutrients. Here are some of them and some sample words.

Guess the meaning of these words from the word elements in them.

proteo- protein	proteopeptic	proteolysis	proteuria
lipo- fat	lipoprotein	lipedema	hyperlipemia
amylo- starch	amyloid	amylase	amylodyspepsia
gluco-, glyco-	glucose	glucogenic	glycogen
hypoglycemia			

Glossary

A

*W=Warming-up; A=Text A; B=Text B

abbreviation /əˌbriːvɪ'eɪʃən/	*n.*	缩略词	(4A)
abdomen /'æbdəmən/	*n.*	腹部	(2A)
abruptly /ə'brʌptlɪ/	*adv.*	突然	(1W)
abscess /'æbsɪs/	*n.*	脓肿	(3A)
accessible /ək'sesəbl/	*adj.*	易接近的	(2B)
account /ə'kaʊnt/	*n.*	记述，描述	(4A)
accountability /əˌkaʊntə'bɪlɪtɪ/	*n.*	有责任，责任制	(4B)
acid-base balance		酸碱平衡	(6A)
acromegaly /ˌækrəʊ'megəlɪ/	*n.*	肢端肥大症	(5B)
adenocarcinoma /'ædɪnəʊˌkɑːsɪ'nəʊmə/	*n.*	腺癌	(8A)
adrenal /ə'driːnl/	*adj.*	肾旁的，肾上腺的	(5B)
aerobic /ˌeɪə'rəʊbɪk/	*adj.*	有氧的；有氧健身的	(8W)
agony /'ægənɪ/	*n.*	极大的痛苦，苦恼，烦闷	(10B)
ailment /'eɪlmənt/	*n.*	疾病（尤指微恙）	(5W)
albumin /æl'bjʊmɪn/	*n.*	清蛋白，白蛋白	(7A)
alimentary /ælɪ'mentərɪ/	*adj.*	食物的，营养的	(8A)
alkalies /ækə'lɪnɪtɪ/	*n.*	碱金属	(6A)
alkalinity /ˌælkə'lɪnɪtɪ/	*n.*	碱度，碱性	(6A)
alter /'ɔːltə/	*vt.*	改变	(8W)
alteration /ˌɔːltə'reɪʃən/	*n.*	变化，改变	(11B)
alveoli /æl'vɪəlaɪ/	*n.*	肺泡（alveolus的复数形式）	(9A)
amebic dysentery		阿米巴痢疾	(7A)
amino acid		氨基酸	(3A)
ammonia /'æməʊnɪə/	*n.*	氨	(6A)
ample /'æmpl/	*adj.*	足够的；丰富的	(9A)

anaerobic /ˌænerə'rəʊbɪk/	*adj.*	无氧的	(11A)
anemia /ə'niːmɪə/	*n.*	贫血症	(1B)
angina /æn'dʒaɪnə/	*n.*	心绞痛	(1A)
anticoagulant /ˈæntɪkəʊ'ægjʊlənt/	*n.*	抗凝血剂；阻凝剂	(6W)
antifreeze /'æntɪ'friːz/	*n.*	防冻剂	(11W)
aortic /eɪ'ɒtɪk/	*adj.*	大动脉的	(5A)
aphasia /ə'feɪzɪə/	*n.*	失语症	(10A)
apparatus /ˌæpə'reɪtəs/	*n.*	仪器	(3B)
apparent /ə'pærənt/	*adj.*	可看见的	(1B)
appetite /'æpɪtaɪt/	*n.*	食欲	(7W)
arthritis /ɑː'θraɪtɪs/	*n.*	关节炎	(8B)
artificial /ˌɑːtɪ'fɪʃəl/	*adj.*	人造的；人工的	(6W)
ascertain /ˌæsə'teɪn/	*vt.*	确定，查明	(2B)
assessment /ə'sesmənt/	*n.*	评估；评价	(11A)
at regular intervals		每隔一定间隔；定期	(5W)
atherosclerosis /ˌæθərəʊsklɪə'rəʊsɪs/	*n.*	动脉粥样硬化	(5W)
atrioventricular /ˌeɪtrɪəʊven'trɪkjʊlə(r)/	*adj.*	心房与心室的，房室的	(5A)
atrium /'ɑːtrɪəm/	*n.*	心房	(5A)
audiotape /'ɔːdɪəʊteɪp/	*n.*	录音，录音磁带	(4B)
auditorium /ˌɔːdɪ'tɔːrɪəm/	*n.*	礼堂，会堂	(9B)
auscultation /ˌɔːskəl'teɪʃən/	*n.*	听诊	(2A)
autoimmune /ˌɔːtəʊɪ'mjuːn/	*adj.*	自身免疫的	(6W)

B

bacteriologic /bækˌtɪərɪə'lɒdʒɪk/	*adj.*	细菌的	(1B)
barium /'beərɪəm/	*n.*	钡	(8B)
bedpan /'bedpæn/	*n.*	（病人在床上用的）便盆	(2W)
bicarbonate /baɪ'kɑːbənɪt/	*n.*	重碳酸盐	(3B)
bile /baɪl/	*n.*	胆汁	(7A)
bilirubin /ˌbɪlɪ'ruːbɪn/	*n.*	胆红素	(7W)
binder /'baɪndə/	*n.*	包扎物	(4W)
biopsy /'baɪɒpsɪ/	*n.*	活组织检查	(8B)
bladder /'blædə/	*n.*	膀胱	(2B)
blameworthy /'bleɪmˌwɜːðɪ/	*adj.*	负有责任的	(9A)
bloat /bləʊt/	*vt.*	使膨胀；使肿起	(8B)
blood bank		血库	(3W)
Blood Urea Nitroge (BUN)		血尿素氮	(3B)
bough /baʊ/	*n.*	大树枝	(12W)

boundless /'baʊndlɪs/	*adj.*	无限的；无穷的	(7W)
brachial /'breɪkɪəl/	*adj.*	臂的	(5B)
bring forth		提出，展示	(1W)
bronchial tree		支气管树	(9A)
bronchiole /'brɒŋkɪəʊl/	*n.*	毛细支气管	(9A)
bronchitis /brɒŋ'kaɪtɪs/	*n.*	支气管炎	(9B)
bronchus /'brɒŋkəs/	*n.*	（尤指肺两侧的）支气管	(9A)
buildup /'bɪldˌʌp/	*n.*	集结；累积	(6W)
bulky /'bʌlkɪ/	*adj.*	庞大的	(5A)

C

cactus /'kæktəs/	*n.*	仙人掌	(11W)
capillary /kə'pɪlərɪ/	*n.*	毛细血管	(3A)
captive /'kæptɪv/	*adj.*	无法逃离的	
	n.	失去行动自由的人或动物	(6W)
carbohydrate /'kɑːbəʊ'haɪdreɪt/	*n.*	碳水化合物	(3A)
carbonic acid	*n.*	碳酸	(6A)
cardiac /'kɑːdɪæk/	*adj.*	（胃的）贲门的；心脏的	(8A)
cardiac arrest		心脏停搏	(11A)
cardiopulmonary resuscitation		心肺复苏	(11A)
cardiovascular /ˌkɑːdɪəʊ'væskjʊlə/	*adj.*	心血管的	(4W)
cartilage /'kɑːtɪlɪdʒ/	*n.*	软骨	(9A)
catheter /'kæθɪtə/	*n.*	导尿管	(11A)
Caucasian /kɔː'keɪzɪən/	*n.*	高加索人	(1A)
	adj.	高加索人的	
cellular /'seljʊlə/	*adj.*	细胞的	(3A)
centrifuge /'sentrɪfjuːdʒ/	*n.*	离心机	(3B)
cerebellum /ˌserɪ'beləm/	*n.*	小脑	(10A)
cerebral apoplexy		脑溢血	(10A)
cerebral palsy		脑瘫	(10A)
cerebrovascular /ˌserɪbrəʊ'væskjʊlə(r)/	*adj.*	脑血管的	(10A)
cerebrum /'serɪbrəm/	*n.*	大脑	(10A)
cervix /sɜːvɪks/	*n.*	子宫颈；颈部	(2A)
change-of-shift		换班	(4W)
chicken pox	*n.*	水痘	(9B)
chilblain /'tʃɪlbleɪn/	*n.*	冻疮	(12B)
chime /tʃaɪm/	*n.*	食糜（同chyme）	(7B)
chloride /'klɔːraɪd/	*n.*	氯化物	(3B)

cholecystitis /ˌkɒlɪsɪs'taɪtɪs/	*n.*	胆囊炎	(7B)
cholesterol /kə'lestərəʊl/	*n.*	胆固醇	(3B)
chronological /ˌkrɒnə'lɒdʒɪkəl/	*adj.*	按时间顺序排列的	(1A)
churn /tʃɜːn/	*n.*	搅乳桶	(8A)
cirrhosis /sɪ'rəʊsɪs/	*n.*	肝硬化	(7A)
cleanse /klenz/	*vt.*	净化，清洗	(6W)
cling /klɪŋ/	*vi.*	抓紧或抱住	(8W)
clipboard /'klɪpbɔːd/	*n.*	有纸夹的笔记板	(4W)
clot /klɒt/	*vt. & vi.*	凝结	
	n.	凝块	(3A)
coagulation /kəʊˌægjʊ'leɪʃən/	*n.*	凝结，凝结物	(3A)
coma /'kəʊmə/	*n.*	昏迷	(6W)
comatose /'kəʊmətəʊs/	*adj.*	昏迷的	(12A)
combat infection		抗感染	(3A)
commode /kə'məʊd/	*n.*	便桶	(11B)
compensate /'kɒmpənseɪt/	*vt.*	补偿	(8W)
complication /ˌkɒmplɪ'keɪʃən/	*n.*	并发症	(3W)
conceptualize /kən'septjʊəlaɪz/	*vi.*	概念化	(10A)
conciseness /kən'saɪsnɪs/	*n.*	简洁，简明	(4A)
confidentiality /ˌkɒnfɪˌdenʃɪ'ælətɪ/	*n.*	机密性	(4A)
congenital /kɒn'dʒenɪtl/	*adj.*	先天的，天生的	(6B)
congestive /kən'dʒestɪv/	*adj.*	充血的	(4W)
connective tissue		结缔组织	(7A)
consequence /'kɒnsɪkwəns/	*n.*	结果	(6W)
conserve /kən'sɜːv/	*vt.*	保护，保存	(12A)
constipation /ˌkɒnstɪ'peɪʃən/	*n.*	便秘	(11A)
consultative /kən'sʌltətɪv/	*adj.*	咨询的	(1W)
continuation /kənˌtɪnjʊ'eɪʃən/	*n.*	继续，连续	(5B)
continuity /ˌkɒntɪ'njuːɪtɪ/	*n.*	延续，衔接	(4B)
contract /kɒntrækt/	*vt. & vi.*	染上（恶习，疾病等）；缩小，紧缩	(7W)
contradiction /ˌkɒntrə'dɪkʃən/	*n.*	矛盾	(9W)
convey /kən'veɪ/	*vt.*	传递	(4W)
coordinate /kəʊ'ɔːdɪnɪt/	*vt.*	使协调	(10A)
COPD [=chronic obstructive pulmonary disease]		[医] 慢性阻塞性肺病	(1A)
coronary /'kɒrənərɪ/	*adj.*	冠状动脉的	(1A)
corpuscle /'kɔːpʌs(ə)l/	*n.*	细胞，血球	(3A)
cramp /kræmp/	*n.*	痛性痉挛，抽筋	(12B)
creativity /ˌkriːeɪ'tɪvətɪ/	*n.*	创造性，创造力	(10A)
crush /krʌʃ/	*vt.*	压破，压碎	(1A)
crutch /krʌtʃ/	*n.*	拐杖	(10W)

cubic /'kju:bɪk/	*adj.*	立方体的	(3A)
cuff /'kʌf/	*n.*	护腕	(2A)
culprit /'kʌlprɪt/	*n.*	犯人，罪犯	(5W)
cumbersome /'kʌmbəsəm/	*adj.*	累赘的，冗长的	(1A)
curb cut		路沿斜坡	(10W)
curtail /kɜ:'teɪl/	*v.*	剪短，减少	(1W)
curve /kɜ:v/	*vi.*	弯曲	(6A)
cusp /kʌsp/	*n.*	尖头，尖端	(5A)
cyanosis /ˌsaɪə'nəʊsɪs/	*n.*	[病理]发绀；苍白病；黄萎病	(11A)

D

dehydration /ˌdi:haɪ'dreɪʃən/	*n.*	脱水	(11A)
deliberately /dɪ'lɪbərətlɪ/	*adv.*	故意地	(6A)
delicate /'delɪkɪt/	*adj.*	纤弱的；易损的	(9A)
denture /'dentʃə/	*n.*	（一副）假牙；托牙	(10B)
depart /dɪ'pɑ:t/	*v.*	离开	(4W)
dew /dju:/	*n.*	水珠，露水	(11W)
diabetes /ˌdaɪə'bi:ti:z/	*n.*	糖尿病	(1B)
diacharge /dɪs'tʃa:dʒ/	*n.*	分泌物	(1W)
dialysis /daɪ'ælɪsɪs/	*n.*	透析	(6W)
diaphragm /'daɪəfræm/	*n.*	横隔膜	(7A)
diastolic /daɪ'stɒlɪk/	*adj.*	心脏舒张的	(5B)
diastolic pressure		舒张压	(5B)
dietary /'daɪətərɪ/	*adj.*	饮食的	(8W)
differentiate /ˌdɪfə'renʃɪeɪt/	*vi.*	区分，辨别	(4A)
digestive /daɪ'dʒestɪv/	*adj.*	消化的；助消化的	(7A)
dilate /daɪ'leɪt/	*vi.*	扩大；膨胀	(10B)
dilemma /dɪ'lemə/	*n.*	窘境	(1W)
diphtheria /dɪf'θɪərɪə/	*n.*	白喉	(9B)
disclose /dɪs'kləʊz/	*vt.*	公开；揭露	(4A)
discoloration /dɪsˌkʌlə'reɪʃən/	*n.*	变色，褪色	(2A)
discriminate /dɪs'krɪmɪneɪt/	*vt.*	歧视；区别，辨别	(4A)
disease-producing organism		致病微生物	(9B)
disintegrate /dɪs'ɪntɪgreɪt/	*vt.*	分解	(3A)
distal /'dɪstəl/	*adj.*	末梢的	(8A)
distension /dɪs'tenʃən/	*n.*	扩张，膨胀	(8A)
dominant /'dɒmɪnənt/	*adj.*	占优势的	(10A)
don /dɒn/	*vt.*	穿上，披上	(2B)

donor /'dəʊnə/	*n.*	捐血者，供血者	(3W)
door-knob /dɔ:nɒb/	*n.*	门把手	(1W)
drape /dreɪp/	*n.*	披风；覆盖物	(2B)
drawback /'drɔ:ˌbæk/	*n.*	缺点	(6W)
droplet /'drɒplɪt/	*n.*	小滴，小水珠	(9B)
drowsiness /'draʊzɪnɪs/	*n.*	嗜睡	(10A)
dry up		枯竭；语塞	(1W)
duct /dʌkt/	*n.*	管，导管	(7B)
duodenal /ˌdju:əʊ'di:nl/	*adj.*	十二指肠的	(8B)
duodenum /ˌdju:əʊ'di:nəm/	*n.*	十二指肠	(7B)
duration /djʊə'reɪʃən/	*n.*	持续时间	(1A)
dysentery /'dɪsəntərɪ/	*n.*	痢疾	(7A)
dystrophy /'dɪstrəfɪ/	*n.*	营养不良	(10W)

E

edema /ɪ:'di:mə/	*n.*	水肿	(7A)
elaborate /ɪ'læbərət/	*adj.*	复杂的；精巧的	(1A)
elbow /'elbəʊ/	*n.*	肘部	(3W)
electrocardiogram /ɪlektrəʊ'kɑ:dɪəʊgræm/	*n.*	心电图，心电图仪器	(2A)
electroencephalogram /ɪˌlektrəʊɪn'sefələgræm/	*n.*	脑电波，脑动电流图	(2A)
electrolyte /ɪ'lektrəʊlaɪt/	*n.*	电解质	(3B)
eliminate /ɪ'lɪmɪneɪt/	*vt.*	排除	(1B)
embarrassed /ɪm'bærəsd/	*adj.*	尴尬的，窘迫的	(2W)
embolism /'embəlɪzəm/	*n.*	栓塞	(10A)
emphysema /ˌemfɪ'si:mə/	*n.*	肺气肿	(11A)
endocardium /ˌendəʊ'kɑ:dɪəm/	*n.*	心内膜	(5A)
endoscopy /en'dɒskəpɪ/	*n.*	内镜检查	(8B)
enema /'enɪmə/	*n.*	灌肠(剂)	(11A)
engulf /ɪn'gʌlf/	*vt.*	吞没；吞食	(3A)
enzyme /'enzaɪm/		[生化]酶	(7W)
epithelium /ˌepɪ'θi:lɪəm/	*n.*	上皮，上皮细胞	(5A)
erythrocyte /ɪ'rɪθrəʊsaɪt/	*n.*	红细胞；红血球	(3A)
esophagus /i:'sɒfəgəs/	*n.*	食管	(8A)
evacuation /ɪˌvækjʊ'eɪʃən/	*n.*	排泄	(11A)
evaluation /ɪˌvæljʊ'eɪʃən/	*n.*	估价；[医]诊断	(1A)
evolutionary /ˌi:və'lu:ʃənərɪ/	*adj.*	进化的	(8W)
exclusion /ɪks'klu:ʒən/	*n.*	排除	(1B)
excrete /eks'kri:t/	*vt.*	排泄；分泌	(6W)

excruciating /ɪk'skru:ʃɪeɪtɪŋ/	*adj.*	极度的	(10B)
exertion /ɪg'zɜ:ʃən/	*n.*	努力；费力	(5B)
exhalation /ˌeksə'leɪʃən/	*n.*	呼出；呼气	(6A)
exhaustion /ɪg'zɔ:stʃən/	*n.*	疲惫，衰竭	(12B)
expiration /ˌekspaɪə'reɪʃən/	*n.*	呼气	(3A)
expulsion /ɪks'pʌlʃən/	*n.*	排出；喷出	(8A)
exquisite /'ekskwɪzɪt/	*adj.*	精致的；细腻的	(6W)
extremity /ɪks'tremɪtɪ/	*n.*	手和足；极端；绝境	(10A)

F

faint /feɪnt/	*vi.*	头晕，昏厥	(12B)
fatigue /fə'ti:g/	*n.*	疲劳，疲乏	(7W)
fecal /'fi:kəl/	*adj.*	排泄物的，粪便的	(2B)
fibrin /'faɪbrɪn/	*n.*	（血）纤维蛋白	(3A)
fibrinogen /faɪ'brɪnədʒən/	*n.*	纤维蛋白原	(3A)
fissure /'fɪʃə/	*n.*	狭长裂缝或裂隙	(7A)
flap /flæp/	*n.*	扁平物	(5A)
flatulent /'flætjʊlənt/	*adj.*	引起肠胃气胀的；肠胃气胀的	(7B)
floor nurse		病房护士，非急救室护士	(7W)
fluid /'flu:ɪd/	*n.*	液体	(1B)
fold /fəʊld/	*n.*	折痕	(8A)
forestall /fɔ:'stɔ:l/	*vt.*	预先阻止	(12B)
format /'fɔ:mæt/	*n.*	格式，版式	(1A)
fracture /'fræktʃə/	*n.*	骨折	(1B)
frostbite /'frɒstbaɪt/	*vt.*	使冻伤	(12A)
frown /fraʊn/	*vt. & vi.*	皱眉，不同意	(4W)

G

gall bladder		胆囊	(7A)
gallstone /'gɔ:lstəʊn/	*n.*	胆（结）石	(7B)
gambit /'gæmbɪt/	*n.*	开场白	(1W)
gangrene /'gæŋgri:n/	*n.*	坏疽	(12B)
gastric /'gæstrɪk/	*adj.*	胃的	(8A)
gastritis /gæs'traɪtɪs/	*n.*	胃炎	(8B)
gastrointestinal /ˌgæstrəʊɪn'testənl/	*adj.*	胃与肠的	(4W)
general weakness		全身无力	(10B)

generate /'dʒenəˌreɪt/	*v.*	产生	(3A)
genitalia /ˌdʒenɪ'teɪlɪə/	*n.*	生殖器（尤指外阴部）	(2B)
get the wrong end of the stick		[口] 完全搞错了，完全误解了	(1W)
GI diseases		胃肠道疾病，消化系统疾病	(1A)
glandular organ		腺器官，腺体	(7A)
glioma /glaɪ'əʊmə/	*n.*	神经胶质瘤	(10A)
glisten /glɪsn/	*vi.*	闪耀	(5W)
glitch /glɪtʃ/	*n.*	小过失，差错	(6W)
globulin /'glɒbjʊlɪn/	*n.*	球蛋白	(7A)
glomeruli /glɔ'merjulai/	*n.*	小球，肾小球	(6W)
glomerulonephritis /gləʊˌmerjʊˌləʊnef'raɪtɪs/	*n.*	血管球性肾炎	(6B)
glucose /'gluːkəʊs/	*n.*	葡萄糖	(3A)
glycogen /'glaɪkəʊdʒen/	*n.*	肝糖	(7A)
gnawing /'nɔːɪŋ/	*adj.*	痛苦的，苦恼的	(8B)
gobble /'gɒbl/	*vt. & vi.*	狼吞虎咽地吃	(6W)
gourd /gʊəd/	*n.*	葫芦	(8A)
gout /gaʊt/	*n.*	痛风	(3B)
graduate /'grædjʊeɪt/	*vt.*	分成等级；标以刻度	(5B)
gritty /'grɪtɪ/	*adj.*	多沙的，含砂的	(7A)
groove /gruːv/	*n.*	沟，槽	(7A)

H

have a mind of one's own		有自己的主见	(8W)
healthy-able-bodied		健康强壮的	(10W)
heartburn /'hɑːtbɜːn/	*n.*	胃灼热	(8A)
heed /hiːd/	*vt.*	注意，留心	(1A)
helicobacter pylori.		幽门螺杆菌	(8B)
hematocrit /'hemətəkrɪt/	*n.*	血球容积（量）计	(3B)
hemiplegia /ˌhemɪ'pliːdʒɪə/	*n.*	偏瘫，半身不遂	(10A)
hemisphere /'hemɪsfɪə/	*n.*	大脑半球	(10A)
hemocytometer /ˌhiːməʊsaɪ'tɒmɪtə/	*n.*	血球计	(3B)
hemoglobin /ˌhiːməʊ'gləʊbɪn/	*n.*	血红素，血红蛋白	(3A)
hemometer /hiː'mɒmɪtə/	*n.*	血红蛋白计=hemoglobinometer	(3B)
hemorrhage /'hemərɪdʒ/	*n.*	（尤指大量的）出血，失血	(3B)
hepatic /hɪ'pætɪk/	*adj.*	肝脏的	(12A)
hepatic artery		肝动脉	(7A)
hepatitis /ˌhepə'taɪtɪs/	*n.*	肝炎	(7W)
hiccup /'hɪkʌp/	*n.*	打嗝	(1W)

hilum /'haɪləm/ *n.* 核，脐 (6A)
hood /hʊd/ *n.* 车篷；引擎罩 (11W)
hospitalization /ˌhɒspɪtəlaɪ'zeɪʃən/ *n.* 住院治疗，送入医院 (4B)
hurdle /'hɜ:dl/ *n.* 阻碍，妨碍 (1W)
hyperglycemia /ˌhaɪpəglaɪ'si:mɪə/ *n.* 多糖症，高血糖症 (3B)
hyperthyroidism /haɪpə'θaɪrɒdɪz(ə)m/ *n.* 甲状腺机能亢进 (5B)
hyperventilation /ˌhaɪpə(:)ventɪ'leɪʃən/ *n.* 换气过度，强力呼吸 (11A)
hypothermia /ˌhaɪpəʊ'θɜ:mɪə/ *n.* 低体温 (12W)

I

ibuprofen /ˌaɪbjʊ'prəʊfɪn/ *n.* 布洛芬，异丁苯丙酸 (8B)
identical /aɪ'dentɪkəl/ *adj.* 同一的；相同的 (8W)
illicit /ɪ'lɪsɪt/ *adj.* 非法的；不正当的 (1A)
illiterate /ɪ'lɪtərɪt/ *adj.* 目不识丁的，文盲的 (10A)
imitate /'ɪmɪteɪt/ *vt.* 模仿 (6W)
impairment /ɪm'peəmənt/ *n.* 损害，损伤 (11A)
impede /ɪm'pi:d/ *vt.* 阻碍，阻止 (5W)
imprint /ɪm'prɪnt/ *n.* 痕迹 (12A)
incontinent /ɪn'kɒntɪnənt/ *adj.* （大小便）失禁的 (11A)
indicator /'ɪndɪkeɪtə/ *n.* 标志物；指示器 (3B)
inflammation /ˌɪnflə'meɪʃən/ *n.* 炎症 (6B)
inflatable /ɪn'fleɪtəbl/ *adj.* 可膨胀的，可充气的 (5B)
inherit /ɪn'herɪt/ *vt.* 经遗传获得 (6B)
insulin /'ɪnsjʊlɪn/ *n.* 胰岛素 (6B)
intensity /ɪn'tensɪtɪ/ *n.* 强度 (10B)
interatrial /ˌɪntə'eɪtrɪəl/ *adj.* 心房间的 (5A)
interlining /'ɪntə'laɪnɪŋ/ *n.* 夹层 (5A)
intern /ɪn'tɜ:n/ *n.* 住院实习医生 (2W)
interstitial /ˌɪntə(:)'stɪʃəl/ *adj.* 间质的，空隙的 (12A)
interventricular /ˌɪntəven'trɪkjʊlə(r)/ *n.* （心脏）室间的 (5A)
intravenous /ˌɪntrə'vi:nəs/ *adj.* 进入静脉的，静脉注射的 (3W)
invasive /ɪn'veɪsɪv/ *adj.* 侵害的，侵入性的 (2W)
inventory /'ɪnvəntrɪ/ *n.* 存货清单 (4W)
irritability /ˌɪrɪtə'bɪlətɪ/ *n.* 易怒 (12A)
irritant /'ɪrɪtənt/ *n.* [医]刺激物，刺激剂 (8A)
itch /ɪtʃ/ *v.* 痒，发痒 (12B)

J

jaundice /'dʒɔ:ndɪs/	*n.*	黄疸病	(7W)

L

lade /leɪd/	*v.*	装载	(6W)
laryngitis /ˌlærɪn'dʒaɪtɪs/	*n.*	喉炎	(9B)
lateral /'lætərəl/	*adj.*	侧面的	(6A)
lead /li:d/	*n.*	铅	(6W)
length of stay		住院时间	(4W)
lengthy /'leŋθɪ/	*adj.*	冗长的	(4A)
lesion /'li:ʒən/	*n.*	损害	(10A)
lethal /'li:θəl/	*adj.*	致命的	(9W)
lethargic /le'θɑ:dʒɪk/	*adj.*	昏睡的	(11A)
leucopenia /ˌlju:kə'pi:nɪə/	*n.*	白细胞减少症	(3B)
leukocyte /'lju:kəsaɪt/	*n.*	白细胞	(3W)
leukocytosis /ˌlju:kəsaɪ'təʊsɪs/	*n.*	白细胞增多症	(3B)
ligament /'lɪgəmənt/	*n.*	韧带	(7A)
lipid /'lɪpɪd,'laɪpɪd/	*n.*	脂质	(3A)
lipoprotein /ˌlɪpə'prəʊti:n/	*n.*	脂蛋白	(5W)
lithotomy /lɪ'θɒtəmɪ/	*n.*	仰卧曲膝位	(2B)
lithotripsy /'laɪθəʊtrɪpsɪ/	*n.*	震波碎石	(7B)
lizard /'lɪzəd/	*n.*	蜥蜴	(11W)
lobby /'lɒbɪ/	*vi.*	游说	(10W)
lobe /ləʊb/	*n.*	（肝）叶	(7A)
lumpy /'lʌmpɪ/	*adj.*	粗糙的	(7A)

M

magician /mə'dʒɪʃən/	*n.*	魔术师	(1W)
make rounds		巡诊，查房	(4B)
malaria /mə'leərɪə/	*n.*	疟疾	(3B)
malignant /mə'lɪgnənt/	*adj.*	恶性的，致命的	(8B)
mammal /'mæməl/	*n.*	哺乳动物	(8W)
measles /'mi:zlz/	*n.*	麻疹	(3B)
medial /'mi:dɪəl/	*adj.*	中间的	(6A)

mediastinum /ˌmiːdɪæs'taɪnəm/	*n.*	（胸腔）纵隔	(9A)
meditation /medɪ'teɪʃən/	*n.*	沉思；冥想	(10B)
medulla /me'dʌlə/	*n.*	（拉丁语）骨髓	(5B)
medulla oblongata		延髓；延脑	(10A)
membrane /'membreɪn/	*n.*	膜	(5W)
mercury /'mɜːkjʊrɪ/	*n.*	[化]汞	(5B)
metastatic /metə'stætɪk/	*adj.*	转移性的，由转移所致的	(2W)
micturition /ˌmɪktjʊə'rɪʃən/	*n.*	排尿	(11B)
migraine /'miːgreɪn/	*n.*	偏头痛	(10B)
milliliter /'mɪlɪliːtə(r)/	*n.*	毫升	(3B)
minute /maɪ'njuːt/	*adj.*	极小的	(9A)
mitral /'maɪtrəl/	*adj.*	冠状的	(5A)
moderate /'mɒdərɪt/	*adj.*	有节制的；适度的	(8W)
molecule /'mɒlɪkjuːl/	*n.*	分子	(5W)
mucus /'mjuːkəs/	*n.*	黏液	(9B)
mutate /mjuː'teɪt/	*vt. & vi.*	（使某物）变异	(9W)
myocardium /ˌmaɪəʊ'kɑːdɪəm/	*n.*	心肌（层）	(5A)

N

narcotic /nɑː'kɒtɪk/	*n.*	麻醉药，镇定剂	(4W)
nasal flaring		鼻翼扇动	(11A)
nauseate /'nɔːsɪeɪt/	*vt.*	使恶心，作呕	(7W)
necrosis /ne'krəʊsɪs/	*n.*	坏死	(12B)
neglect /nɪ'glekt/	*vt.*	忽视	(1A)
nephron /'nefrɒn/	*n.*	肾单位	(6W)
neuroglia /njʊ'rɒglɪə/	*n.*	神经胶（质）	(10A)
neutralize /'njuːtrəlaɪz/	*vt.*	中和	(6A)
nitrogen /'naɪtrədʒən/	*n.*	氮	(3B)
nocturia /nɒk'tjʊərɪə/	*n.*	夜尿症，遗尿症	(11B)
normal voiding		正常排尿	(11B)
notch /nɒtʃ/	*n.*	（V字形的）槽口	(6A)
nucleus /'njuːklɪəs/	*n.*	细胞核（复数为nuclei）	(3A)
numbness /'nʌmnɪs/	*n.*	无感觉，麻木	(10B)

O

obese /əʊ'biːs/	*adj.*	肥胖的	(8W)

obesity /əʊ'bɪsɪtɪ/	*n.*	肥胖，肥胖症	(5W)
oblongata /ɒblɒŋ'gɑːtə/	*n.*	[医] 延髓	(10A)
omission /əʊ'mɪʃən/	*n.*	遗漏	(4A)
one after another		依次地；接二连三地	(8W)
onset /'ɒnset/	*n.*	[医]发病	(9B)
ophthalmoscope /ɒf'θælməskəʊp/	*n.*	检眼镜	(2A)
opt /ɒpt/	*vi.*	选择	(1W)
otoscope /'əʊtəskəʊp/	*n.*	检耳镜	(2A)
outnumber /aʊt'nʌmbə/	*vt.*	数量多于	(3A)
oxygenation /ˌɒksɪdʒɪ'neɪʃən/	*n.*	氧化	(11A)

P

pallor /'pælə/	*n.*	（脸色等的）苍白	(12A)
palpate /'pælpeɪt/	*vt.*	触诊	(2A)
pancreas /'pænkrɪəs/	*n.*	胰，胰腺	(3B)
pandemic /pæn'demɪk/	*n.*	大流行病	(9W)
paralyze /'pærəlaɪz/	*vt.*	使瘫痪	(10W)
parenteral /pæ'rentərəl/	*adj.*	肠胃外的	(12A)
parietal /pə'raɪətəl/	*adj.*	体壁的；腔壁的	(9A)
pass out		昏厥	(12W)
pathogen /'pæθədʒ(ə)n/	*n.*	病菌，病原体	(3A)
pelvic /'pelvɪk/	*adj.*	骨盆的	(2W)
penetration /penɪ'treɪʃən/	*n.*	渗透；穿透	(8B)
pepsin /'pepsɪn/	*n.*	胃蛋白酶	(8B)
percuss /pə:'kʌs/	*vt.*	叩诊	(2A)
perforation /pɜːfə'reɪʃ(ə)n/	*n.*	穿孔	(8B)
pericardium /ˌperɪ'kɑːdɪəm/	*n.*	心包膜	(5A)
peristaltic /ˌperɪ'stæltɪk/	*adj.*	蠕动的	(8A)
peritoneal /perɪtə'niːə/	*adj.*	腹膜的	(12A)
pernicious /pɜː'nɪʃəs/	*adj.*	恶性的，致命的	(7A)
perspiration /ˌpɜːspə'reɪʃən/	*n.*	汗水；出汗	(6A)
perspire /pəs'paɪə/	*vi.*	出汗，流汗	(12B)
pertinent /'pɜːtɪnənt/	*adj.*	有关的	(1A)
pharyngitis /ˌfærɪn'dʒaɪtɪs/	*n.*	咽炎	(9B)
phosphatase /'fɒsfəteɪs/	*n.*	磷酸（酯）酶	(3B)
physically-challenged		残疾的	(10W)
pigment /'pɪgmənt/	*n.*	色素	(7W)
plasma /'plæzmə/	*n.*	血浆	(3A)

plastic sleeve		塑料套管	(4W)
platelet /'pleɪtlɪt/	*n.*	血小板	(3A)
pleura /'plʊərə/	*n.*	胸膜	(9A)
pleurisy /'plʊərɪsɪ/	*n.*	胸膜炎	(9A)
pluck /plʌk/	*vt.*	采，摘	(11W)
pneumonia /nju:'məʊnɪə/	*n.*	[医]肺炎	(9A)
polio /'pəulɪəu/	*n.*	脊髓灰质炎	(10W)
pons /pɒnz/	*n.*	脑桥	(10A)
porous /'pɔ:rəs/	*adj.*	能穿透的，能渗透的	(6W)
portal /'pɔ:təl/	*n.*	入口	(9B)
portal vein		门静脉	(7A)
potassium /pə'tæsɪəm/	*n.*	钾	(3B)
pouch /paʊtʃ/	*n.*	小袋	(7B)
precede /pri:'si:d/	*vt. & vi.*	先于	(3B)
precipitate /prɪ'sɪpɪteɪt/	*vt.*	使提前或突然发生	(9B)
predispose /'pri:dɪs'pəʊz/	*vt.*	使易于患（病）	(7B)
prey /preɪ/	*n.*	被捕食的动物；受害者	(12W)
prior to		在…之前	(3W)
prioritize /praɪ'ɒrɪtaɪz/	*vt.*	划分优先顺序	(4W)
priority /praɪ'ɒrɪtɪ/	*n.*	优先	(4B)
prompt /prɒmpt/	*vt.*	提示	(4W)
prone /prəʊn/	*adj.*	易于…的；有…倾向的	(7B)
prop /prɒp/	*vt.*	支撑	(2W)
prudent /'pru:dənt/	*adj.*	小心的	(5W)
psychiatric /ˌsaɪkɪ'ætrɪk/	*adj.*	精神病学的	(4A)
pulmonary /'pʌlmənərɪ/	*adj.*	肺的	(5A)
pulsation /pʌl'seɪʃən/	*n.*	脉搏	(5B)
pupil /'pju:pl/	*n.*	瞳孔	(2A)
pus /pʌs/	*n.*	脓，脓水	(3A)
pyloric /paɪ'lɔ:rɪk/	*adj.*	幽门的	(8A)

R

radial /'reɪdɪəl/	*adj.*	辐射状的	(5B)
rage /reɪdʒ/	*vi.*	动怒	(11W)
ramp /ræmp/	*n.*	土堤斜坡；斜道	(10W)
rapport /ræ'pɔ:t/	*n.*	友好关系；融洽	(1A)
rash /ræʃ/	*n.*	（皮）疹	(1B)
raw deal		不公平待遇	(1W)

reflex /'ri:fleks/	*n.*	反应能力；反射作用	(11B)
regimen /'redʒɪmen/	*n.*	（为病人规定的）生活规则，养生法	(10B)
relevant /'relɪvənt/	*adj.*	有关的	(4A)
renal /'ri:nl/	*adj.*	肾脏的	(11B)
repetitive /rɪ'petɪtɪv/	*adj.*	重复的	(4B)
rescuer /'reskjʊə/	*n.*	救助者	(11W)
retain /rɪ'teɪn/	*vt.*	保持；雇；记住	(1A)
retention /rɪ'tenʃən/	*n.*	滞留	(6W)
rheumatic /ru:'mætɪk/	*adj.*	风湿病的	(9B)
rhinitis /raɪ'naɪtɪs/	*n.*	鼻炎	(9B)
rocket up		飞涨	(12B)
room divider		（房间分割）屏风	(2B)
route /ru:t/	*vt.*	按某路线发送；给…规定路线	(6W)
rupture /'rʌptʃə/	*n.*	断裂，破裂	(10A)

S

salivation /ˌsælɪ'veɪʃən/	*n.*	分泌唾液	(12A)
scanty /'skæntɪ/	*adj.*	（大小或数量）不足的	(7W)
scoop /sku:p/	*vt.*	舀；挖空；掏	(12W)
secrete /sɪ'kri:t/	*vt.*	分泌	(7W)
secretion /sɪ'kri:ʃən/	*n.*	分泌	(5B)
seemingly /'si:mɪŋlɪ/	*adv.*	表面上的	(1W)
semilunar /'semɪ'lu:nə/	*adj.*	半月形的	(5A)
septum /'septəm/	*n.*	隔膜	(5A)
sequence /'si:kwəns/	*vt.*	安排顺序	(4B)
Sequential Multiple Analyzer		(SMA) 顺序多项分析器	(3B)
sera /'sɪərə/	*n.*	浆液；血清	(1B)
serum /'sɪərəm/	*n.*	血清	(3B)
session /'seʃən/	*n.*	（进行某活动连续的）一段时间	(6W)
set about		着手，开始	(4W)
severity /sɪ'verɪtɪ/	*n.*	严重	(10W)
shelter /'ʃeltə/	*n.*	掩体；避难所	(12W)
shiver /'ʃɪvə/	*vi.*	战栗，发抖	(11W)
shrivel /'ʃrɪvl/	*vt. & vi.*	皱缩	(7A)
shrub /ʃrʌb/	*n.*	灌木	(11W)
side by side		肩并肩地，并排	(9A)
sift /sɪft/	*vi.*	筛选	(1A)

silicosis /ˌsɪlɪ'kəʊsɪs/	*n.*	硅肺病	(9A)
sinus /'saɪnəs/	*n.*	[解]窦，窦道	(9B)
size up		估计…的大小（或多少）	(1W)
skeletal /'skelɪtl/	*adj.*	骨骼的	(11A)
slur /slɜ:/	*vi.*	含糊地发音	(12W)
smear /smɪə/	*n.*	（显微镜的）涂片	(2A)
sneeze /sni:z/	*n.*	喷嚏	(9B)
sodium /'səʊdɪəm/	*n.*	钠	(3B)
solute /'sɒlju:t/	*n.*	溶解物	(11B)
solvent /'sɒlvənt/	*n.*	[化]溶剂	(6W)
sore /sɒ/	*n.*	伤处	(8B)
sort out		分类，解决	(1W)
span /spæn/	*n.*	跨度，一段时间	(11A)
spasm /'spæzəm/	*n.*	痉挛；抽搐	(12B)
sphincter /'sfɪŋktə/	*n.*	括约肌	(8A)
sphygmomanometer /ˌsfɪgməʊmə'nɒmɪtə/	*n.*	血压计	(5B)
spinal cord		脊髓	(10W)
spiral /'spaɪərəl/	*adj.*	螺旋形的	(8B)
squamous /'skweɪməs/	*adj.*	鳞片状的，鳞状	(5A)
squat /skwɒt/	*vi.*	蹲	(11B)
starch /stɑ:tʃ/	*n.*	淀粉	(7A)
startling /'stɑ:tlɪŋ/	*adj.*	令人吃惊的	(8B)
static /'stætɪk/	*adj.*	静止的；不变的	(10B)
stem from		起源于， 由…造成	(10B)
stethoscope /'steθəskəʊp/	*n.*	听诊器	(2A)
stool /stu:l/	*n.*	大便，粪便	(8B)
strep throat		脓毒性咽喉炎	(6B)
strip /strɪp/	*vt.*	除去，剥去	(11W)
subtle /'sʌtl/	*adj.*	微妙的；敏感的	(11A)
sunstroke /'sʌnstrəʊk/	*n.*	中暑，日射病	(12A)
suprarenal /ˌsju:prə'ri:nl/	*adj.*	肾脏上的，肾上腺的	(5B)
susceptible /sə'septəbl/	*adj.*	易受感染的	(1B)
systolic /sɪ'stɒlɪk/	*adj.*	心脏收缩的	(5B)
systolic pressure		收缩压	(5B)

T

talk nonsense	胡说八道；胡言乱语	(12W)
tender abdomen	腹部压痛	(7W)

tentative /'tentətɪv/	*adj.*	试探性的；不确定的	(1B)
thaw /θɔ:/	*vt.*	使融化，使缓和	(12B)
therapeutic /θerə'pju:tɪk/	*adj.*	有益于健康的	(12A)
thigh /θaɪ/	*n.*	股，大腿	(11B)
thoracic /θɒ(:)'ræsɪk/	*adj.*	胸的	(9A)
thrive /θraɪv/	*vi.*	生长旺盛	(9W)
throb /θrɒb/	*n.*	跳动	(10B)
thrombocyte /'θrɒmbəˌsaɪt/	*n.*	血小板	(3A)
thrombosis /θrɒm'bəʊsɪs/	*n.*	血栓症	(10A)
thump /θʌmp/	*vt. & vi.*	重击；（心脏等）扑扑地跳	(2A)
thyroid /'θaɪrɒɪd/	*adj.*	甲状腺的	(5B)
tingle /'tɪŋgl/	*vi.*	感到刺痛；引起刺痛	(10B)
to a certain extent		一定程度上	(9B)
tongue-tied /tʌŋ'taɪd/	*adj.*	结结巴巴的	(1W)
trachea /trə'ki:ə/	*n.*	气管	(9B)
tracheitis /ˌtreɪkɪ'aɪtɪs/	*n.*	气管炎	(9B)
transaminase /træn'sæmɪneɪs/	*n.*	转氨酶	(3B)
transfusion /træns'fju:ʒən/	*n.*	输血	(3W)
traumatic /trɔ:'mætɪk/	*adj.*	损伤的，创伤的	(2W)
traumatize /'trɔ:mətaɪz/	*vt.*	使受外伤	(12A)
triglyceride /traɪ'glɪsəraɪd/	*n.*	甘油三酸酯	(3B)
tuberculin /tju:'bɜ:kjʊlɪn/	*n.*	结核菌素	(1B)
tuberculosis /tjʊˌbɜ:kjʊ'ləʊsɪs/	*n.*	肺结核	(1B)
tubule /'tju:bju:l/	*n.*	小管	(6W)
turgor /'tɜ:gə/	*n.*	细胞（组织）的膨胀；肿胀	(12A)

U

unceasingly /ʌn'si:sɪŋlɪ/	*adv.*	继续地，不断地	(5A)
unmet /ʌn'met/	*adj.*	未满足的	(11A)
untimely /ʌn'taɪmlɪ/	*adj.*	不合时宜的	(4A)
urea /'jʊərɪə/	*n.*	尿素	(7A)
uremia /jʊə'ri:mɪə/	*n.*	尿毒症	(3B)
ureter /jʊə'ri:tə/	*n.*	输尿管	(6A)
urinal /'jʊərɪnl/	*n.*	尿壶	(11B)
urinary system		泌尿系统	(6A)
urinary tract		泌尿道，尿路	(6W)
urinate /'jʊərɪneɪt/	*vi.*	排尿	(6B)
urination /'jʊərɪ'neɪʃən/	*n.*	排尿	(11B)

urine /'jʊərɪn/ *n.* 尿 (1B)

V

valve /vælv/ *n.* （心脏的）瓣膜 (5A)
venous /'viːnəs/ *adj.* 静脉的 (5A)
ventricle /'ventrɪkl/ *n.* 心室 (5A)
verbal /'vɜːbəl/ *adj.* 口头的 (4A)
versatile /'vɜːsətaɪl/ *adj.* 多用途的；多功能的 (7A)
vertically /'vɜːtɪkəlɪ/ *adv.* 垂直地 (10A)
visceral /'vɪsərəl/ *adj.* 内脏的 (9A)
vital /'vaɪtəl/ *adj.* 至关重要的 (1A)
voice /vɒɪs/ *v.* 表达，吐露 (1W)
voltmeter /'vəʊltˌmiːtə(r)/ *n.* 伏特计 (2A)
vomit /'vɒmɪt/ *vt. & vi.* 呕吐 (8A)

W

womb /wuːm/ *n.* 子宫 (6B)
wring /rɪŋ/ *vt.* 绞，拧 (11W)

Y

yo-yo /'jəujəu/ *adj.* 上下起落的；摇摆不定的 (8W)