



普通高等教育“十一五”国家级规划教材



卫生部“十一五”规划教材

全国高等医药教材建设研究会规划教材

全国高等学校教材 · 供药学类专业用

药学英语

第3版

上册

主 编 胡廷熹

副主编 史志祥



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卫生部“十一五”规划教材

全国高等学校药学类专业第六轮规划教材

出版说明

全国高等学校药学类专业本科卫生部规划教材是我国最权威的药学类专业教材,于1979年出版第一版,1987年、1993年、1998年、2003年进行了四次修订,并于2003年出版了第五轮规划教材。该套教材曾为全国高等学校药学类专业惟一一套统编教材,后更名为规划教材,其具有较高的权威性和一流的水平,为我国高等教育培养大批的药学专业人才发挥了重要作用。近年来我国药学教育事业快速发展,开办药学及相关专业的院校数量已由上世纪90年代的几十所发展到现在三百多所,办学规模和水平在不断提高;同时很多学校根据自身特点,尝试新的教学方法,药学教育逐渐向多元化发展。为适应新时期我国高等药学教育改革和发展,做好药学类专业本科教材的组织规划和质量把关工作,全国高等学校药学专业教材第三届评审委员会围绕药学专业第五轮教材使用情况、药学教育现状、新时期药学领域人才结构等多个主题,进行了广泛、深入地调研活动,并对调研结果进行了反复、细致的分析论证。根据药学专业教材评审委员会的意见和调研、论证的结果,全国高等医药教材建设研究会、卫生部教材办公室决定组织全国专家于2006年夏季开始对第五轮教材进行修订。

药学类专业第六轮规划教材的编写修订,坚持紧扣药学类专业本科教育培养目标,以教育部新的药学教育纲要为基础,以国家食品药品监督管理局执业药师资格准入为指导,按卫生部等相关部委行业用人要求,强调培养目标与用人要求相结合,进一步提高教材水平和质量。同时,针对学生实验、自修、复习考试等需要,紧扣主干教材内容编写、修订了相应的学习指导与习题集、实验指导等配套教材25种。

全国高等学校药学类专业第六轮规划教材编写工作严格按照卫生部教材办公室“931”质量控制体系进行。经过全国各院校的推荐,全国高等学校药学专业第三届教材评审委员会遴选,卫生部教材办公室最终确定了主干教材与配套教材主编、副主编和编者。在卫生部教材办公室的组织和严格管理,以及在全国高等学校药学专业第三届教材评审委员会的指导下,各门教材主编、编者同心协力,积极参加主编人会议、编写会议和定稿会议,始终贯彻会议精神,克服各种困难,以对我国高等药学教育事业高度负责的态度认真编写教材,保证教材的质量和水平,并达到人民卫生出版社“齐、清、定”的交稿要求。经过1年多的努力,全国高等学校药学类专业第六轮规划教材即将出版,并向全国公开发行。

该套教材供全国高等学校药学及相关专业教学使用。全套教材中主干教材共29

种,其中修订 25 种,新组织编写 4 种;其中 22 种为普通高等教育“十一五”国家级规划教材(用星号表示);配套教材 25 种,其中 2 种为普通高等教育“十一五”国家级规划教材。2007 年初,在卫生部的领导下,由卫生部教材办公室组织,全国高等医药教材建设研究会进行了卫生部“十一五”规划教材评审工作,本套教材及其配套教材全部入选卫生部“十一五”规划教材。

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卫生部教材办公室

2007年6月1日

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前 言

《药学英语》第2版于2000年面世以来，全国药学类院校积极采用，使本书先后印刷了25次之多，发行量较大，收到了应有的社会效益。

本书第3版的编写是为了适应药学教育的新形势和各高校开设基础药学英语的学时数，以及某些高校除基础药学英语外还按课程开设专业药学英语等需要。本书第3版编写中，仍分为上下两册，上册为基础药学英语，共选课文30课和阅读材料15课，其体例仍为：①课文；②词汇注释；③课文注释；④习题。下册为专业药学英语，共分成药物化学、药剂学、药理学、药物分析、生药学、生物化学、植物化学和药事管理八个学科，每一学科为一单元，其中包括该学科最常用的专业词汇，在专业和语言方面有一定代表性的三篇文章，每篇文章后分别注解单词和词组并附有课文语法注解，然后再选三篇专业文章，供学生自行阅读。本书下册的第九单元为《药学英语写作技巧》。每册书后均附有词汇总表。

参加本书编写的有北京大学医学部、广东药学院和中国药科大学的教授、副教授及老师们。全书除本人主编外，尚有史志祥副教授担任副主编。另外还专门聘请了本书编者之一——甘珏老师兼任本教材编写秘书，她承担本书繁杂的内外联系工作和全部编写内务。值得一提的是，在编写过程中，本书上下册的六位编者均完成了自己分工完成的初稿，并在南京召开了近10次定稿会议。张宇辉和甘珏两位老师，对本书上册各单元课文和补充阅读及词汇注释，作了仔细的校正，本人在此致以衷心的感谢。

为了提高本书下册专业英语的质量，我们还邀请了本轮教材中八门专业课程的主编，他们分别是：四川大学华西药学院郑虎教授、沈阳药科大学崔福德教授、复旦大学药学院李端教授、中国药科大学刘文英教授、北京大学药学院蔡少青教授、中国药科大学吴梧桐教授、沈阳药科大学吴立军教授和四川大学华西药学院吴蓬教授，他们对本书下册各专业词汇进行了仔细审查和增减，使之符合该门课程最新发展现状，在此致以衷心的感谢。

此外，本人也感谢中国药科大学现任基础部副主任、外语系主任张国申教授对本书的编写所给予的亲切关怀和大力支持。

由于本人主编水平有限，谬误之处在所难免，敬请读者指正。

胡廷熹

于中国药科大学

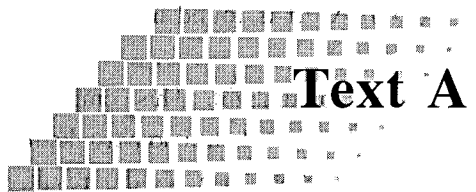
2007年6月

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Unit One



Text A Vitamins

Do you know that it is possible to eat large amounts of food and still starve? You may be eating a good mixture of different kinds of foods furnishing all the calories you need; yet lacking certain necessary substances. About fifty years ago scientists began to realize that foods contain tiny amounts of other things that the body needs for good health.

The antiberiberi substance at first was called an accessory food factor. Experiments soon revealed still another such factor. The new substance cured sore eyes and promoted growth. It appeared in the fat of eggs, butter, and cod-liver oil rather than in the coats of rice grains.

Later scientists called these substances vitamins and named them by the letters of the alphabet.

In the early days of the clipper ships, sailors who went on long voyages would often get a dangerous disease called scurvy. Just 200 years ago, a doctor in the British navy found that eating fresh fruits and vegetables would cure this disease. It was the first time people recognized that a definite sickness could result when something was missing from the diet.

Nowadays this scurvy-preventing material is called vitamin C, and it can be manufactured in large quantities and added to other foods. Oranges, lemons, cabbage, turnips and tomatoes are some natural foods containing large amounts of vitamin C; like all vitamins, it cannot be stored very long in the body but must be replaced all the time. Now you can see one reason why a glass of orange juice or a half grapefruit is part of a good breakfast.

A similar experiment in the Japanese navy a century later involved beriberi. In one of the languages of Ceylon¹ beriberi means weakness. This disease causes the

nerves to become inflamed and to degenerate. It is widespread in rice-eating countries of the Orient². It is sometimes a cause of heart failure.

The vitamin for curing beriberi is called thiamin or vitamin B₁. It takes nearly a hundred tons of rice husks to give a single ounce of vitamin B₁³. Fortunately, we need only very tiny amounts of each of the vitamins daily—less than one ten-thousandth of an ounce. If you eat enough cereals, peas, beans, eggs and tomatoes, you get a good supply of vitamin B₁. This keeps your nerves in good condition and helps appetite and digestion.

Another vitamin that helps you grow, keeps you strong and active and even protects you against some eye diseases, is called vitamin A. It is found in foods like milk, butter, eggs, green vegetables, corn and carrots.

Vitamin D can be formed right in your skin by the action of sunlight. This compound helps build calcium and other minerals into the bones and teeth. If the bones do not take up minerals properly, they become soft; and a disease called rickets may be the result. Ordinary foods do not have much of this vitamin; so it is important for you to get as much sunshine as you can. The livers of fish are rich in vitamins A and D. Doctors often give young children fish liver oils to supply plenty of these vitamins.

The subject of vitamins is not a simple one. Biochemists are finding out more about it all the time. Of the several other vitamins now known, at least one other should be mentioned, and this is vitamin B₂, which is also called riboflavin. It keeps the skin, eyes and hair healthy, and it is plentiful in meat, milk and eggs.

Vitamins are defined as organic nutrients required in very small amounts and essential for growth and for good health. Diseases such as beriberi, scurvy and rickets that develop in the absence of vitamins are termed deficiency diseases.

Besides being needed only in minute amount, vitamins differ from other nutrients in that no chemical tests have showed their presence. Only biological experiments could identify the foods that contain a particular vitamin.

While it is true that we can buy most of the important vitamins in the form of pills at the drug store, the best, safest and cheapest way to get them is by eating the proper foods. And besides, eating is much more fun than taking pills.

People today often respond to advertising that emphasizes the vitamin content of food products even when they lack a clear understanding of what these important nutrients do for them⁴. Indeed, precise knowledge about vitamins is quite recent, even though the effects produced by the lack of certain vitamins were observed over 200 years ago.

NEW WORDS AND EXPRESSIONS

accessory [ək'sesəri] *adj.* 补充的, 辅助的, 附加的, 附属的; *n.* 附件, 配件, 附属品

- beriberi [beri'beri] *n.* 脚气(病)
- biochemist [ˈbaɪə'kɛmɪst] *n.* 生物化学家
- calcium [ˈkælsiəm] *n.* 钙
- calorie [ˈkæləri] *n.* 卡, 卡路里 (热量单位)
- carrot [ˈkærət] *n.* 胡萝卜
- cereal [ˈsiəriəl] *n.* 谷类; 谷类食物
- clipper [ˈklɪpə] *n.* (旧时的)快速帆船
- cod-liver oil [kɒd-'lɪvə oɪl] *n.* (鳕)鱼肝油
- degenerate [dɪ'dʒenəreɪt] *vt.* 变质, 变性
- digestion [daɪ'dʒɛstʃən] *n.* 消化
- furnish [ˈfɜ:nɪʃ] *vt.* 供应, 提供
- grapefruit [ˈgreɪpfru:t] *n.* 葡萄柚, 西柚
- husk [hʌsk] *n.* 外皮; 壳
- inflamm[eɪ] [ɪn'fleɪm] *vt.* 使发炎
- lack [læk] *vt. & n.* 缺乏
- lemon [ˈlemən] *n.* 柠檬, 柠檬树
- liver [ˈlɪvə] *n.* 肝脏
- nutrient [ˈnju:triənt] *adj.* 营养的, 滋养的; *n.* 营养品, 营养成分
- riboflavin [ˈraɪbəʊ'fleɪvɪn] *n.* 核黄素, 维生素 B₂
- rickets [ˈrɪkɪts] *n.* 佝偻病
- scurvy [ˈskɜ:vi] *n.* 坏血病
- sore [sɔ:] *adj.* (一碰就)痛的
- thiamin [ˈθaɪəmi:n] *n.* 硫胺素, 维生素 B₁
- turnip [ˈtɜ:nɪp] *n.* 萝卜

NOTES

1. **Ceylon**: an island country in southern Asia, now called Sri Lanka.
2. **the Orient**: the countries lying east of Europe, especially the far East.
3. **It takes nearly a hundred tons of rice husks to give a single ounce of vitamin B₁**: A single ounce of vitamin B₁ can be obtained from nearly a hundred tons of rice husks.
4. **People today often respond to advertising ...**: People today influenced by various ads, tend to buy their food products ...

EXERCISES

I. Questions

1. What substances may people lack in their diet, although the food is, in most cases, rich in all the calories they need?

2. What is scurvy? How can it be cured?
3. What conclusion can be drawn from the case of scurvy?
4. Why is it said that a glass of orange juice or a half grapefruit is part of a good breakfast?
5. What is the result of beriberi? Where is it mostly likely to be seen?
6. How can vitamin D be formed? And what's its use to our health?
7. Why are some diseases termed as deficiency diseases? Can you mention some of them?
8. In what way are vitamins different from other nutrients?
9. Why do you think advertisements now lay stress on the vitamin content of food products?
10. Don't you think it is wiser and easier to take in the important vitamins necessary to our health by buying the pills in the drug store than by eating the proper foods? Why?

II. True or False

1. Vitamins contribute in some way to such diseases as scurvy, sore eyes, beriberi and rickets.
2. The antiberiberi substance which can cure sore eyes and promote growth exists in cod-liver oil rather than in the husks of grains.
3. Sailors are more likely to get scurvy simply because they eat fewer vegetables and fruits than ordinary people.
4. People with rice grains as their main food are more likely to lack vitamin B₁, hence easier to get beriberi.
5. Vitamin D, indispensable in the building of calcium and other minerals into the bones and teeth, can be formed right in the skin if you eat proper fresh fruits and vegetables daily.
6. So many categories of vitamins have been discovered so far, each having a special function to perform, and they are named by the letters of the alphabet.
7. While some vitamins are richly present in fruits and vegetables, others are plentiful in meat, milk and eggs.
8. Vitamin deficiency diseases suggest large amounts of various vitamins are needed in keeping the human body healthy.
9. Scientific research workers are finding out more about the vitamin all the time, even though a great deal has been achieved in this field for over 200 years.
10. More and more emphasis on the vitamins' content of food products now reflects people's clear understanding of their importance to their health.

III. Translation

1. 研究人员发现普通感冒患者体内维生素 C 水平急剧下降, 接近坏血病患者水平。

2. 虽然只有当饮食中新鲜水果、蔬菜严重缺乏时人才会患上坏血病,但轻度维生素 C 缺乏症还是普遍存在的。

3. 维生素是有机化合物,必须通过饮食或肌肉注射予以补充,以维护身体健康。

4. 维生素不产生能量,但却在能量转换及新陈代谢调节方面起着重要作用。

5. 维生素是按字母分类的,如维生素 A、C、D、E、K 和复合 B 等。

6. 和其他营养素相比,维生素和矿物盐的存在量较少,而需要量也很少。

7. 由于维生素缺乏而引起的疾病叫维生素缺乏症,例如,维生素 A 缺乏出现夜盲症、维生素 D 缺乏导致佝偻症。

8. 有些维生素溶解于脂肪,而其他的则溶解于水,故它们分别被称为脂溶性维生素和水溶性维生素。

9. 除了一般的营养素之外,另两类营养素——维生素和无机盐或矿物盐也是人体必需的。

10. 大多数食品含有多种营养素,但没有哪一种食品囊括人体所需的所有营养素。



Text B Foods That Fight Cancer

Diet is now considered a major weapon against cancer. The National Cancer Institute estimates that about one-third of all cancers are linked to diet, and recent research indicated that what you eat may help to significantly reduce your risk.

Cancer develops over a long time, which means that you have years—typically decades—in which to hinder or promote it. Researchers are finding that what you eat may interfere with cancer growth at various stages. For example, certain foods can block the chemicals that initiate cancer. Antioxidants, found in some vitamins and minerals, can snuff out oxygen free radicals, substances that are thought to make cells more susceptible to cancer¹, and they can even repair some of the cellular damage that has been done. And some food—wheat bran in particular—has been shown to shrink precancerous cells.

A recent review of 17 studies from 17 nations reveals that people who eat the most fruits and vegetables have about half the cancer rates of those who eat the least. That includes cancers of the lung, colon, breast, cervix, esophagus, oral cavity, stomach, bladder, pancreas and ovary. In fact, some research suggests that frequent consumption of fruits and vegetables can cut the risk of lung cancer even in smokers. “It is almost mind-boggling,” says Tim Byers, an epidemiologist with the U. S. Centers for Disease Control and Prevention, “that ordinary fruits and vegetables can be so effective against such a potent carcinogen as cigarette smoke.”

One of the most studied antioxidants in vegetables and fruits thought to protect against cancer is beta-carotene, concentrated in deep green, yellow and orange vegetables such as carrots, sweet potatoes and spinach². Fruits high in beta-carotene include apricots and cantaloupes. In test-tube studies at Harvard University, beta-carotene had a direct toxic effect on cells taken from malignant tumors. It also reduced the growth of lung-cancer cells and altered the proteins needed for tumors to grow.

Research also shows that beta-carotene can change in the body to retinoid acid³, a substance used in clinical trials to treat certain cancers.

Here are some of the foods that contain cancer-fighting chemicals.

Tomatoes. One of the compounds in tomatoes that is thought to reduce the risk of cancer is lycopene, the pigment that makes tomatoes red. Lycopene, an antioxidant that is also found in watermelons and apricots, quenches certain cancer-triggering oxygen free radicals.

Having little lycopene in your blood is associated with a higher risk of pancreatic cancer, according to a Johns Hopkins University study. People with pancreatic cancer showed lower levels of lycopene compared with healthy individuals. Those with the least blood lycopene had over five times the risk of pancreatic cancer as healthy people with the most blood lycopene.

Lycopene is present in tomato products, including sauces, tomato paste and even ketchup.

Green Vegetables. A recent Italian study showed that dark-green leafy vegetables lower the risk of many cancers. Spinach, broccoli, kale and dark-green lettuces are chock-full of⁴ antioxidants, including beta-carotene, folate and lutein. A good rule of thumb⁵: the darker the vegetable, the more antioxidants within.

Pungent Preventives. A whole host of chemicals thought to have cancer-inhibiting properties have been identified in allium vegetables, which include garlic, onions and scallions. Animal studies show that many of these chemicals block carcinogens that have been linked to colon, stomach, lung and liver cancer.

A study at Pennsylvania State University found that feeding rats various garlic extracts and preparations reduced mammary tumors by as much as 71 percent. In humans, studies suggest that those who eat more onion and garlic are less prone to⁶ gastrointestinal cancer.

Research suggests that garlic compounds may even interfere with cancer progression. A recent German study found that ajoene, a garlic compound, is toxic to malignant cells. Garlic may also antagonize existing cancer by boosting immune functions, according to researchers at Loma Linda University School of Medicine. Their study, done on mice, found that garlic's sulfur compounds increased the activity of macrophages and T-lymphocytes, two of the components of the immune system that destroy tumor cells.

Citrus Fruit. "Eat oranges, grapefruits, lemons and limes as often as possible," says toxicologist Herbert Pierson, a former project officer with the National Cancer Institute. He calls citrus fruit an all-around cancer package⁷ because it possesses every class of natural substances (carotenoids, flavonoids and others) that individually have neutralized powerful chemical carcinogens in animals.

Citrus fruit may be particularly effective in reducing the risk of pancreatic cancer. One study found that in a group of Swedes, those who ate a citrus fruit almost daily reduced the risk of pancreatic cancer by one-half to more than two-thirds, as compared with eating citrus fruit less than once a week.