



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·供临床药学专业用

临床药学英语

主 编 李大魁

副主编 宋 宁



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卫生部“十一五”规划教材

全国高等学校临床药学专业教材

出版说明

看病难看病贵问题长期困扰着我国广大患者,由于药物的不合理应用而加重患者病情,或损害其身体健康的事件也时有发生。医疗机构迫切需要临床药学专门人员开展临床药学工作,为社会降低医疗成本,为公众提供安全有效的药学服务,解决长期难以解决的“看病难看病贵问题”。要实现这一目标必须在药学本科教育中大力发展临床药学教育,在医院长期开展临床药师人才培养。

为满足社会的需要,目前我国有多所高等学校和部分医院已在开展临床药学教学和人才培养工作。卫生部于2005年12月发出了《关于开展临床药师培训试点工作的通知》(卫办科教发[2005]257号),决定在全国开展临床药师培训试点工作,1年多来已在全国设立50个试点单位,工作进展顺利。但无论学校或培训试点单位,目前尚无一套针对性强的教材适合于教学和培训的需要,在教学、培训过程中都是借用其他专业教材或自编教材,这就在一定程度上存在着教材的针对性差,教师不好教,学生不好学,以及因学校和培训单位不同而培养出学生的知识结构、能力水平不一,难以适应岗位要求的情况。

针对我国高等学校临床药学教育和全国临床药师培训的需要,全国高等医药教材建设研究会、卫生部教材办公室在2004年7月正式开始临床药学专业教材编写调研论证工作。在广泛调研的基础上,2006年4月全国高等医药教材建设研究会、卫生部教材办公室组织全国专家进行了专题论证,确定了编写供全国高等学校临床药学专业教学使用的规划教材的内容特色和品种(包括新组织编写教材15种和与其他专业共用教材7种);同时,为保证教材的质量,成立了全国高等学校临床药学专业教材评审委员会。论证会后即开始主编、编者遴选工作,经过全国各医药学教育、科研、医疗的推荐,全国高等学校临床药学专业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,并于2006年6月正式开始编写。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。

本套教材的编写,坚持以五年制临床药学本科教育为主体,以专业培养目标为方向,以临床药师所需知识和技能为导向,立足“三基”(基本理论、基本知识、基本技能),突出“五性”(思想性、科学性、先进性、启发性、适用性),注重能力的培养。以化学、药学

为基础,以医学为支撑,强调药学学科与医学学科的融合。突破现有药学、医学教材的编写模式,注意基础课、专业基础课、专业课间内容的取舍和相关知识的相互渗透与衔接,具有更强的针对性。

全国高等学校临床药学专业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。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临床药学专业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,以对我国临床药学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,全国高等学校了临床药学类专业规划教材即将出版,并向全国公开发行。

本套教材主要供临床药学专业本科教学使用,也可作为临床药师培训和相关领域在校教育及继续教育教材。

虽然临床药学专业高等教育起步较晚,教学工作和有关教材的编写还需要不断总结、完善,但我们仍希望本套教材的出版有利于临床药学的教育和临床药学专门人才的培养,促进我国临床药学教育事业健康的向前发展,为社会提供更多合格的临床药学人才。

整套教材包括:①基础课程,②医学基础课程,③药学课程,④临床药学课程,⑤临床医学课程,共五个模块。新编教材15种,与其他专业教材共用7种。

(1) 基础课程教材 5 种

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- 《有机化学》(新编)
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- 《生物化学》(与临床医学专业共用)
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(3) 药学课程教材 4 种

- 《药剂学》(新编)
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- 《药物分析》(与药学专业共用)

(4) 临床药学课程教材 5 种

- 《临床药理学》(新编)
- 《临床药物代谢动力学》(新编)
- 《临床药学英语》(新编)

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(5) 临床医学课程教材 3 种

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全套新编教材有:主干教材 15 种,配套教材 4 种,具体品种如下:

- | | |
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| 药剂学学习指导与习题集 | 龙晓英 |
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| 15. 临床药学英语 | 李大魁 |

全国高等医药教材建设研究会

卫生部教材办公室

2007 年 6 月 1 日

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前 言

即使是通过大学英语水平测试四级和六级考试的人们，在陪同外宾参观天坛、故宫、颐和园等景点时仍然感觉词汇少，在与国外同行进行专业交谈时常常被药名、病名、症状名所羁绊。近年来，我国的国际学术交流机会越来越多，越来越多的有识之士热忱地把国外的临床药学实践方法和教学方法引入中国，越来越多的药师们走上国际学术交流的舞台。这时，人们突然意识到：只有交流的热情、只有公共英语、只有满腔的好学精神，是远远不够的，语言和词汇成为专业学术交流的巨大障碍。

本书是全国高等学校临床药学专业卫生部“十一五”规划教材之一种。全书借助英语这个语言工具，介绍药师在进行临床药学相关的专业学习和交流时所需要的药学专业的英语词汇和内容。在临床药学工作中，我们关注药品说明书、药物治疗学、用药安全性等多个方面，查阅大量国外专业书籍和文献，撰写研究论文在国外专业期刊上发表，在国际学术会议上作学术报告或壁报交流；所涉及的英语词汇涵盖药物学、药理学、生理学、毒理学、诊断学、治疗学，甚至经济学、统计学等多个领域。

本书从临床药学工作的角度，设计了临床药学概况、药物评价、药物治疗学、药物安全性、药历文档、专业研究论文、与医生和患者的沟通等七大板块，试图抛砖引玉，旨在引导学生和从事临床药学的人员学习和了解相关文献类型、词汇、专业书籍和文献，并在需要时进一步查阅相关资料。本书可供全国高等学校临床药学专业师生及临床药学继续培训使用。

本书的编写尝试在院校教学与实际应用之间架设起桥梁，是在广大临床药学工作者的期盼和呼声中应运而生的。限于作者的水平，本书的选材、安排、教学层次递进等方面还存在许多有待改进之处。欢迎广大师生提出宝贵意见。

编 者

2007.7

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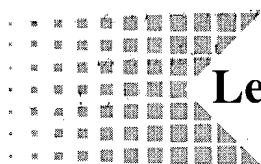
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Chapter 1

Clinical Pharmacy and Clinical Pharmacist



Lesson 1: Scope of Pharmacy

Joseph L Fink III, BS Pharm, JD

Adapted from Remington—The Science and Practice of Pharmacy (21st Ed, 2005), Chapter 1 P3-4

TEXT

Pharmacy is the art and science of preparing and dispensing medications and the provision of drug-related information to the public. It involves the interpretation of prescription orders; the compounding, labeling, and dispensing of drugs and devices; drug product selection and drug utilization reviews; patient monitoring and intervention; and the provision of cognitive services related to the use of medications and devices. The American Pharmacists Association describes the mission of pharmacy as serving the society as “the profession responsible for the appropriate use of medications, devices, and services to achieve optimal therapeutic outcomes”. The Report of the Commission of Pharmacy, Pharmacists for the Future (often referred to as the Millis Report), states that “pharmacy should be conceived basically as a knowledge system that renders a health service by concerning itself with understanding drugs and their effects”. Thus, pharmaceutical care is a necessary element of total health care.

The current philosophy or approach to professional practice in pharmacy is designated as

pharmaceutical care. This concept holds that the important role of the pharmacist is “the responsible provision of drug therapy for the purpose of achieving definite outcomes that improve a patient’s quality of life”. Pharmacists, then, are those who are educated and licensed to dispense drugs and to provide drug information—they are experts on medications. They are the most accessible member of today’s health care team, and often are the first source of assistance and advice on many common ailments and health care matters.

Education

There is currently one professional degree in pharmacy: the doctorate (Pharm D). The Pharm D curriculum usually requires 6 academic years to complete the degree requirements. Pharmacists who hold the baccalaureate in pharmacy degree (BS Pharm or B Pharm) may be admitted to a doctor of pharmacy program, in which instance the combined period of study may be longer than 6 academic years. There are 87 colleges and schools of pharmacy in the United States (see www.aacp.org).

In 1992, the American Association of Colleges of Pharmacy (AACP) House of Delegates voted “to support a single entry-level educational program at the doctoral level (Pharm D)”. The vote of the deans and faculty delegates affirmed their support of an entry-level program of at least 6 years. Perhaps even more importantly, the Accreditation Council for Pharmaceutical Education (ACPE), the national organization that accredits professional degree programs in pharmacy, has adopted that position as well. The transition from a two-degree approach (BS Pharm and Pharm D) to the current sole degree is now complete.

General Education—Courses in the social sciences, humanities, arts, history, and literature provide the broad general education required of a professional in today’s society.

Prerequisite Courses—Mathematics and the physical and biological sciences teach the principles, the application of which find their way into many of the upper-level professional pharmacy courses.

Professional Courses—Basic to most pharmacy curricula are courses in pharmacology, medicinal chemistry, pharmaceuticals, biopharmaceutics, and the clinical-pharmacy externships. Courses in social and administrative pharmacy as well as pharmacy law also are found in this sequence.

Opportunities for students to specialize or minor in certain professional areas have become more available and increasingly popular. Most prominent are hospital/institutional pharmacy, nuclear pharmacy, management, and various research specialties.

Licensure Requirements

The practice of pharmacy in any given state is regulated by that state and the

Board of Pharmacy within that state. The law in all states, including the District of Columbia and Puerto Rico, requires applicants for licensure to be of good moral character; have graduated from an Accreditation Council for Pharmaceutical Education (ACPE) accredited first professional degree program; have passed an examination given by the Board of Pharmacy; and be 21 years of age.

All states require that candidates for licensure have a record of practical experience or internship training acquired under the supervision and instruction of a licensed practitioner. Some jurisdictions grant licensure by licensure transfer, known colloquially as reciprocity. Requirements vary from state to state.

The vast majority of jurisdictions have established continuing education/competency requirements for relicensure. The types of programs that are recognized and the prescribed range of acceptable content matter are fairly uniform. The ACPE also has responsibility for accrediting providers of professional continuing education programming.

A list of the governmental agencies that license pharmacists in the various states is available from the National Association of Boards of Pharmacy, 700 Busse Highway, Park Ridge, IL 60068-2402 (see www.nabp.org).

Careers

Job opportunities for pharmacists are expected to grow about as fast as the average for all occupations, mainly due to the increased pharmaceutical needs of a larger and older population. Other factors likely to increase demand for pharmacists include the likelihood of scientific advances that will provide more drug products for the prevention, diagnosis, and treatment of disease; new developments in administering medication; and increasingly well-informed consumers who are sophisticated about health care and eager for more detailed information about drugs and their effects.

Community pharmacy is a hybrid requiring well-developed professional skills and, in many cases, management abilities. In addition to dispensing pharmaceuticals, pharmacists in community pharmacies answer questions about prescription and over-the-counter (OTC) drugs and give advice about home health care supplies and durable medical equipment. Of an estimated 200,000 pharmacists now in practice, the majority are in community pharmacy practice.

Health-systems pharmacy is the practice of pharmacy in private and government-owned hospitals, health maintenance organizations (HMOs), clinics, walk-in health centers, and nursing homes. This has become a significant setting for pharmacy practice over the past 50 years or so. In these settings, pharmacists dispense medication, prepare sterile solutions, advise other professionals and patients on the use of drugs, monitor drug regimens, and evaluate drug use. They advise other professionals on the

selection and effects of drugs and, in some cases, make patient rounds with them or provide direct patient care.

Nuclear pharmacy applies the principles and practices of pharmacy and nuclear chemistry to produce radioactive drugs used for diagnosis and therapy.

Industrial pharmacy offers opportunities to pharmacists of all educational levels. The largest number of pharmacists are involved in marketing and administration. Some pharmaceutical manufacturers employ pharmacists as their professional service representatives, to educate physicians and pharmacists about the manufacturer's products. This can be a rewarding career for persons with the right personality and motivation, and it is often a stepping-stone to supervisory positions in sales and a path toward integration into the administrative and sales structure of a pharmaceutical firm. Pharmacists with master's degrees in business or additional degrees in law find additional opportunities in the pharmaceutical industry in the marketing, sales, and legal departments. Pharmacists can also serve the industry as professional communications managers and clinical research scientists; research and development personnel often have advanced degrees, although this is not always the case. Production and quality-control (or quality-assurance) supervisory positions often are held by pharmacists.

Government service offers opportunities to pharmacists in various capacities. They may serve as noncommissioned or commissioned officers in the Army, Navy, Air Force, and Coast Guard. They also serve as commissioned officers in the United States Public Health Service, which furnishes pharmacists for the Food and Drug Administration, Bureau of Prisons, and the Indian Health Service. Appointments are available for pharmacists in the Drug Enforcement Administration of the Department of Justice, and in the National Institutes of Health, the Center for Medicare and Medicaid Services, the Health Resources and Services Administration, and various other agencies.

Pharmaceutical education offers opportunities to pharmacists with advanced degrees in any of the professional specialties. Expanding enrollments and changes in the curricula at colleges to meet the employment needs of the future result in an increased need for college-level instructors. Potentially higher salaries, more freedom for research and writing, independence of action, and the cultural surroundings in pharmaceutical education make teaching attractive.

Pharmaceutical journalism offers rewarding experiences for a limited number of pharmacists with writing and editing skills.

Organizational management careers are available for those with pharmacy education who wish to serve in national and state associations and in boards of pharmacy. The increasing number of pharmacists and the interface of pharmacy with

insurance carriers and health and welfare agencies mean the responsibilities of associations and boards must expand accordingly, and be complicated by the greater involvement of state and federal governments in health care. Thus, pharmacists who have organizational interests and talents will be in great demand and will play important roles in the future of pharmacy in the United States.

Graduate Education

Areas of graduate study include pharmaceuticals, industrial pharmacy, pharmacology, pharmaceutical/medicinal chemistry, pharmacognosy, and social and administrative pharmacy. A master's or PhD degree in pharmacy or a related field usually is required for research positions, and a Pharm D, MS, or PhD degree is necessary for administrative or faculty positions.

Although a number of graduates pursue advanced degrees in pharmacy, some enter a 1- or 2-year residency program or fellowship. A pharmacy residency is an organized, directed, postgraduate training program in a defined area of pharmacy practice.

Vocabulary

1. American Pharmacists Association: 美国药师联合会。美国药师联合会在 1952 年成立, 当时称美国药学联合会 (American Pharmaceutical Association), 代表了超过 57000 名的执业药师、药学科学家、学生药师、药学技术人员以及其他对这个职业的发展有兴趣的各界人士。美国药师联合会致力于帮助所有的药师改进药物使用, 促进患者关怀的进步, 是美国最早建立的和最大的药师联合会。

2. Millis Report: The Millis Report. Sponsored by the American Medical Association (AMA) and also published in 1966, the Millis report focused on graduate medical education and encouraged specific efforts designed to increase the number of physicians who could replace the dwindling reserve of general practitioners. This report emphasized clinical competence, continuity and prevention.

3. American Association of Colleges of Pharmacy (AACP): 美国药学院联合会。美国药学院联合会建立于 1900 年, 是一个代表着药学教育和药学教育者利益的美国全国性组织。该联合会由 105 所美国药学院组成, 包括超过 4300 名教师和 48500 名药学学生, 还有 3600 名药学研究生。AACP 致力于促进药学教育。

4. Accreditation Council for Pharmaceutical Education (ACPE): Accreditation Council for Pharmacy Education (ACPE) is the national agency for the accreditation of professional degree programs in pharmacy and providers of continuing pharmacy education. ACPE was established in 1932 for the accreditation of pre-service education, and in 1975 its scope of activity was broadened to include accreditation of