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TAO LE ■ VIKAS BHUSHAN ■ HERMAN SINGH BAGGA



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# **USMLE STEP 2**

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TAO LE, VIKAS BHUSHAN, HERMAN SINGH BAGGA

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# 出版说明

美国医师执照考试 (United States Medical Licensing Examination, USMLE) 是针对全世界各国医学院的学生或毕业生, 欲到美国从医的执照考试, 考试全部为选择题, 采用计算机考试。考试分为:

**Step 1 (第一阶段):** 考察医学基础学科知识, 包括解剖学 Anatomy, 生理学 Physiology, 生物化学 Biochemistry, 微生物学 Microbiology, 病理学 Pathology, 药理学 Pharmacology, 遗传学 Genetics, 营养学 Nutrition, 神经科学 Neuroscience 等。

**Step 2 (第二阶段):**

(1) 临床医学知识 (Clinical Knowledge, CK): 包括内科学 Medicine, 外科学 Surgery, 妇产科学 Obstetrics and Gynecology, 儿科学 Pediatrics, 神经病学 Neurology, 家庭医学 Family Medicine, 急诊医学 Emergency Medicine, 预防医学 Preventive Medicine 等。

(2) 临床技能 (Clinical Skill, CS): 要通过 Step 1、Step 2 及 TOEFL 之后才能报考, 主要是考察考生的临床实践操作知识。

**Step 3 (第三阶段):** 测试考生的实际工作能力。内容包括采集病史、体格检查、诊断、治疗措施, 以及医疗法规等。

USMLE 在北京、上海和广州设有考点, 在中国大陆可参加 USMLE Step 1 和 USMLE Step 2 CK 的考试。考试介绍及报名情况可参见 <http://www.ecfm.org>

为了帮助有志于参加 USMLE 的考生更好地复习, 北京大学医学出版社全面引进了 McGraw Hill 公司的两个著名 USMLE 复习品牌丛书: PreTest 系列、FIRST AID 系列。这两套丛书经过多次再版, 受到世界各地考生的欢迎。本次引进的均为其最新版本。

当前, 我国很多医学院校在进行英文授课、考试的改革, 本书对国内从事英语授课、考试的教师和学生也有重要的参考价值。为广大的医学生和医务工作者比较中美医学教育和自己掌握的知识提供参考。同时, 该书也是学习专业英语的好教材。

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## NOTICE

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## DEDICATION

To our families, friends, and loved ones, who supported and assisted in the task of assembling this guide.

and

To the contributors to this and future editions, who took time to share their knowledge, insight, and humor for the benefit of students.

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# PREFACE

With the seventh edition of *First Aid for the USMLE Step 2 CK*, we continue our commitment to providing students with the most useful and up-to-date preparation guide for the USMLE Step 2 CK. The seventh edition represents a thorough revision in many ways and includes:

- A revised and updated exam preparation guide for the USMLE Step 2 CK. Includes updated study and test-taking strategies for the FRED v2 computer-based testing (CBT) format.
- Revisions and new material based on student experience with the 2008 and 2009 administrations of the USMLE Step 2 CK.
- Concise summaries of more than 300 heavily tested clinical topics written for fast, high-yield studying.
- Topics that integrate clinically relevant high-yield basic science facts from *First Aid for the USMLE Step 1*.
- A “rapid review” that tests your knowledge of each topic.
- A high-yield collection of more than 120 glossy photos similar to those appearing on the USMLE Step 2 CK exam.
- A completely revised, in-depth guide to clinical science review and sample examination books.

The seventh edition would not have been possible without the help of the many students and faculty members who contributed their feedback and suggestions. We invite students and faculty to continue sharing their thoughts and ideas to help us improve *First Aid for the USMLE Step 2 CK*. (See How to Contribute, p. xv.)

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<i>Los Angeles</i>	Vikas Bhushan
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# HOW TO CONTRIBUTE

To continue to produce a high-yield review source for the Step 2 CK exam, you are invited to submit any suggestions or corrections. We also offer paid internships in medical education and publishing ranging from three months to one year (see below for details). Please send us your suggestions for

- Study and test-taking strategies for the Step 2 CK exam.
- New facts, mnemonics, diagrams, and illustrations.
- Low-yield topics to remove.

For each entry incorporated into the next edition, you will receive a \$10 gift certificate, as well as personal acknowledgment in the next edition. Diagrams, tables, partial entries, updates, corrections, and study hints are also appreciated, and significant contributions will be compensated at the discretion of the authors. Also let us know about material in this edition that you feel is low yield and should be deleted.

The preferred way to submit entries, suggestions, or corrections is via our blog:

[www.firstaidteam.com](http://www.firstaidteam.com)

Otherwise, please send entries, neatly written or typed or on disk (Microsoft Word), to:

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Attention: Contributions

## NOTE TO CONTRIBUTORS

All entries become property of the authors and are subject to editing and reviewing. Please verify all data and spellings carefully. In the event that similar or duplicate entries are received, only the first entry received will be used. Include a reference to a standard textbook to facilitate verification of the fact. Please follow the style, punctuation, and format of this edition if possible.

## INTERNSHIP OPPORTUNITIES

The author team is pleased to offer part-time and full-time paid internships in medical education and publishing to motivated physicians. Internships may range from three months (e.g., a summer) up to a full year. Participants will have an opportunity to author, edit, and earn academic credit on a wide variety of projects, including the popular *First Aid* series. Writing/editing experience, familiarity with Microsoft Word, and Internet access are desired. For more information, e-mail a résumé or a short description of your experience along with a cover letter to the authors at their e-mail address.

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## SECTION 1

# Guide to Efficient Exam Preparation

- ▶ Introduction
- ▶ USMLE Step 2  
CK—Computer-Based  
Testing Basics
- ▶ Defining Your Goal
- ▶ Study Resources
- ▶ Test-Day Checklist
- ▶ Testing Agencies



## ► INTRODUCTION

The United States Medical Licensing Examination (USMLE) Step 2 allows you to pull together your clinical experience on the wards with the numerous “factoids” and classical disease presentations that you have memorized over the years. Whereas Step 1 stresses basic disease mechanisms and principles, Step 2 places more emphasis on clinical diagnosis and management, disease pathogenesis, and preventive medicine. The Step 2 exam is now composed of two parts:

- The Step 2 Clinical Knowledge examination (Step 2 CK)
- The Step 2 Clinical Skills examination (Step 2 CS)

The USMLE Step 2 CK is the second of three examinations that you must pass in order to become a licensed physician in the United States. The computerized Step 2 CK is a one-day (nine-hour) multiple-choice exam.

Students are also required to take the Step 2 CS, which is a one-day live exam in which students examine 12 standardized patients. For more information on this examination, please refer to *First Aid for the USMLE Step 2 CS*. Information about the Step 2 CS format and about eligibility, registration, and scoring can be found at [www.nbme.org](http://www.nbme.org).

The information found in this section as well as in the remainder of the book will address only the Step 2 CK.

## ► USMLE STEP 2 CK—COMPUTER-BASED TESTING BASICS

**How Will the CBT Be Structured?**

The Step 2 CK is a computer-based test (CBT) administered by Prometric, Inc. It is a one-day exam with approximately 368 questions divided into eight 60-minute blocks of 46 questions each, administered in one nine-hour testing session. A new form of testing software called **FRED v2** is now being used by the USMLE. FRED v2 may be different from the Step 1 exam you took in that it offers improved **highlight** and **strike-out** features as well as the ability to make **brief notes** to yourself. The format of display for normal lab values has also changed, and now particular lab values can be searched for, which is quicker than scrolling through lengthy lists of normal values. Additionally, a calculator application has been made available to allow you to do basic calculations. Finally, “sequential item sets” have been introduced to the exam. These are sets of multiple-choice questions that are related and must all be answered in order without skipping a question in the set along the way. As you answer questions in a given set, the previous answers become locked and cannot be changed. These are the only questions on the USMLE exam that are locked in such a way. There will be no more than five “sequential item sets” within each USMLE Step 2 CK exam.

During the time allotted for each block on the USMLE Step 2 CK, the examinee can answer test questions in any order as well as review responses and change answers (with the exception of responses within the “sequential item sets” described above). However, under no circumstances can examinees go back and change answers from previous blocks. Once an examinee finishes a block, he or she must click on a screen icon in order to continue to the next block. Time not used during a testing block will be added to your overall

break time, but it cannot be used to complete other testing blocks. Expect to spend up to nine hours at the test center.

### Testing Conditions: What Will the CBT Be Like?

Even if you're familiar with computer-based testing and the Prometric test centers, FRED v2 is a new testing format that you should access from the USMLE CD-ROM or Web site ([www.usmle.org](http://www.usmle.org)) and try out prior to the exam.

If you familiarize yourself with the FRED v2 testing interface ahead of time, you can skip the 15-minute tutorial offered on exam day and add those minutes to your allotted break time of 45 minutes.

For security reasons, examinees are not allowed to bring personal electronic equipment into the testing area—which means that watches (even analog), cellular telephones, and electronic paging devices are all prohibited. Food and beverages are prohibited as well. Examinees are given laminated writing surfaces for note taking, but these must be returned after the examination. The testing centers are monitored by audio and video surveillance equipment.

You should become familiar with a typical question screen. A window to the left displays all the questions in the block and shows you the unanswered questions (marked with an "i"). Some questions will contain figures or color illustrations adjacent to the question. Although the contrast and brightness of the screen can be adjusted, there are no other ways to manipulate the picture (e.g., zooming or panning). Larger images are accessed with an "exhibit" button. The examinee can also call up a window displaying normal lab values. You may **mark** questions to review at a later time by clicking the check mark at the top of the screen. The **annotation** feature functions like the provided erasable dry boards and allows you to jot down notes during the exam. Play with the **highlighting/strike-out** and annotation features with the vignettes and multiple answers.

You should also do a few practice blocks to get a feel for which tools actually help you process questions more efficiently and accurately. If you find that you are not using the marking, annotation, or highlighting tools, then **keyboard shortcuts** can save you time over using a mouse.

### What Does the CBT Format Mean for Me?

With the exception of the new features described earlier, the CBT format is the same format as that of the USMLE Step 1. If you are uncomfortable with this testing format, spend some time playing with a Windows-based system and pointing and clicking icons or buttons with a mouse.

The USMLE also offers students an opportunity to take a simulated test, or practice session, at a Prometric center. The session is divided into three one-hour blocks of 50 test items each. The 143 Step 2 CK sample test items that are available on the CD-ROM or on the USMLE Web site ([www.usmle.org](http://www.usmle.org)) are the same as those used at CBT practice sessions. **No new items are presented.** The cost is about \$42 for U.S. and Canadian students but is higher for international students. The student receives a printed percent-correct score after completing the session. No explanations of questions are provided. You may register for a practice session online at [www.usmle.org](http://www.usmle.org).



*The goal of the Step 2 CK is to apply your knowledge of medical facts to clinical scenarios you may encounter as a resident.*



**Keyboard shortcuts:**

**A-E**—Letter choices.

**Enter or Spacebar**—Move to next question.

**Esc**—Exit pop-up Lab and Exhibit windows.

**Alt-T**—Countdown timers for current session and overall test.

## How Do I Register to Take the Exam?

Information on Step 2 CK format, content, and registration requirements can be found on the USMLE Web site. To register for the exam in the United States and Canada, apply online at the National Board of Medical Examiners (NBME) Web site ([www.nbme.org](http://www.nbme.org)). A printable version of the application is also available on this site. The preliminary registration process for the USMLE Step 2 CK is as follows:

- Complete a registration form and send your examination fees to the NBME (online).
- Select a three-month block in which you wish to be tested (e.g., June/July/August).
- Attach a passport-type photo to your completed application form.
- Complete a Certification of Identification and Authorization Form. This must be signed by an official at your medical school (e.g., the registrar's office) to verify your identity. This form is valid for five years, allowing you to use only your USMLE identification number for future transactions.
- Send your certified application form to the NBME for processing. (Applications may be submitted more than six months before the test date, but examinees will not receive their scheduling permits until six months prior to the eligibility period.)
- The NBME will process your application within 4–6 weeks and will send you a slip of paper that will serve as your scheduling permit.
- Once you have received your scheduling permit, decide when and where you would like to take the exam. For a list of Prometric locations nearest you, visit [www.prometric.com](http://www.prometric.com).
- Call Prometric's toll-free number or visit [www.prometric.com](http://www.prometric.com) to arrange a time to take the exam.
- The Step 2 CK is offered on a year-round basis except for the first two weeks in January. For the most up-to-date information on available testing days at your preferred testing location, refer to [www.usmle.org](http://www.usmle.org).

The scheduling permit you receive from the NBME will contain the following important information:

- Your USMLE identification number.
- The eligibility period in which you may take the exam.
- Your "scheduling number," which you will need to make your exam appointment with Prometric.
- Your candidate identification number, or CIN, which you must enter at your Prometric workstation in order to access the exam.



*Because the exam is scheduled on a "first-come, first-served" basis, you should be sure to call Prometric as soon as you receive your scheduling permit.*

Prometric has no access to the codes and will not be able to supply these numbers, so **do not lose your permit!** You will not be allowed to take the Step 2 CK unless you present your permit along with an unexpired, government-issued photo identification that contains your signature (e.g., driver's license, passport). Make sure the name on your photo ID exactly matches the name that appears on your scheduling permit.

## What If I Need to Reschedule the Exam?

You can change your date and/or center within your three-month period without charge by contacting Prometric. If space is available, you may reschedule

up to five days before your test date. If you need to reschedule outside your initial three-month period, you can apply for a single three-month extension (e.g., April/May/June can be extended through July/August/September) after your eligibility period has begun (visit [www.nbme.org](http://www.nbme.org) for more information). This extension currently costs \$50. For other rescheduling needs, you must submit a new application along with another application fee.

### What About Time?

Time is of special interest on the CBT exam. Here is a breakdown of the exam schedule:

Tutorial	15 minutes
60-minute question blocks (46 questions per block)	8 hours
Break time (includes time for lunch)	45 minutes
<hr/>	
Total test time	9 hours

The computer will keep track of how much time has elapsed during the exam. However, the computer will show you only how much time you have remaining in a given block. Therefore, it is up to you to determine if you are pacing yourself properly.

The computer will not warn you if you are spending more than the 45 minutes allotted for break time. **If you do exceed the 45-minute break time, the time to complete the last block of the test will be reduced.** However, you can elect not to use all of your break time, or you can gain extra break time either by skipping the tutorial or by finishing a block ahead of the allotted time.

### New Security Measures

In early 2009, the NBME initiated a new check-in/check-out process that includes electronic capture of your fingerprints and photograph. These measures are intended to increase security by preventing fraud, thereby safeguarding the integrity of the exam. The new procedures also decrease the amount of time needed to check in and out of the examination throughout the day, thus maximizing your break time.

### If I Leave During the Exam, What Happens to My Score?

You are considered to have started the exam once you have entered your CIN onto the computer screen. In order to receive an official score, however, you must finish the entire exam. This means that you must start and either finish or run out of time for each block of the exam. If you do not complete all the question blocks, your exam will be documented on your USMLE score transcript as an incomplete attempt, but no actual score will be reported.

The exam ends when all blocks have been completed or time has expired. As you leave the testing center, you will receive a written test-completion notice to document your completion of the exam.



## What Types of Questions Are Asked?

The Step 2 CK is an integrated exam that tests understanding of normal conditions, disease categories, and physician tasks. Almost all questions on the exam are case based. A substantial amount of extraneous information may be given, or a clinical scenario may be followed by a question that could be answered without actually requiring that you read the case. It is your job to determine which information is superfluous and which is pertinent to the case at hand. Content areas include internal medicine, OB/GYN, pediatrics, preventive services, psychiatry, surgery, and other areas relevant to the provision of care under supervision. Physician tasks are distributed as follows:

- Promoting preventive medicine and health maintenance (15–20%)
- Understanding the mechanisms of disease (20–35%)
- Establishing a diagnosis (25–40%)
- Applying principles of management (15–25%)

Most questions on the exam have a **single best answer**, but some **matching sets** call for multiple responses (the number to select will be specified). The part of the vignette that actually asks the question—the stem—is usually found at the end of the scenario and generally relates to the physician task. From student experience, there are a few stems that are consistently addressed throughout the exam:

- What is the most likely diagnosis? (40%)
- Which of the following is the most appropriate initial step in management? (20%)
- Which of the following is the most appropriate next step in management? (20%)
- Which of the following is the most likely cause of . . . ? (5%)
- Which of the following is the most likely pathogen . . . ? (3%)
- Which of the following would most likely prevent . . . ? (2%)
- Other (10%)

Other exam tips are as follows:

- Note the age and race of the patient in each clinical scenario. When ethnicity is given, it is often relevant. Know these well (see high-yield facts), especially for more common diagnoses.
- Be able to recognize key facts that distinguish major diagnoses.
- Questions often describe clinical findings rather than naming eponyms (e.g., they cite “audible hip click” instead of “positive Ortolani’s sign”).
- Questions about acute patient management (e.g., trauma) in an emergency setting are common.

The cruel reality of the Step 2 CK is that no matter how much you study, there will still be questions you will not be able to answer with confidence. If you recognize that a question cannot be solved in a reasonable period of time, make an educated guess and move on; you will not be penalized for guessing. Also bear in mind that 10–20% of the USMLE exam questions are “experimental” and will not count toward your score.

## How Long Will I Have to Wait Before I Get My Scores?

The USMLE reports scores 3–4 weeks after the examinee’s test date. During peak periods, however, reports may take up to six weeks to be scored. Official