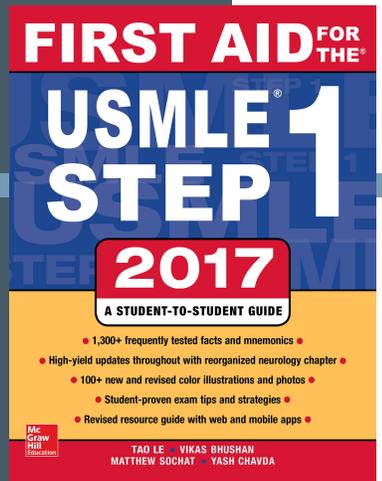


SECTION I SUPPLEMENT

Special Situations



▶ First Aid for the International Medical Graduate	2
▶ First Aid for the Osteopathic Medical Student	13
▶ First Aid for the Podiatric Medical Student	17
▶ First Aid for the Student Requiring Test Accommodations	19

▶ FIRST AID FOR THE INTERNATIONAL MEDICAL GRADUATE

▶ *IMGs make up approximately 25% of the US physician population.*

▶ *More detailed information can be found in the ECFMG Information Booklet, available at www.ecfm.org/pubshome.html.*

▶ *Applicants may apply online for USMLE Step 1, Step 2 CK, or Step 2 CS at www.ecfm.org.*

“International medical graduate” (IMG) is the accepted term now used to describe any student or graduate of a non-US, non-Canadian, non-Puerto Rican medical school, regardless of whether he or she is a US citizen or resident. Technically the term IMG encompasses FMGs (foreign medical graduates [medical graduates from medical schools outside the United States who are not residents of the United States—that is, US citizens or green-card holders]), although the terms IMG and FMG are often used interchangeably.

IMG’s Steps to Licensure in the United States

To be eligible to take the USMLE Steps, you (the applicant) must be officially enrolled in a medical school located outside the United States and Canada that is listed in the World Directory of Medical Schools (WDOMS; www.wdoms.org) and meet the ECFMG eligibility requirements, both at the time you apply for examination and on your test day. In addition, your “Graduation Year” must be listed as “Current” at the time you apply and on your test day.

If you are an IMG, you must go through the following steps (not necessarily in this order) to apply for residency programs and become licensed to practice in the United States. You must complete these steps even if you are already a practicing physician and have completed a residency program in your own country.

- Pass USMLE Step 1, Step 2 CK, and Step 2 CS, as well as obtain a medical school diploma (not necessarily in this order). All three exams can be taken during medical school. If you have already graduated prior to taking any of the Steps, then you will need to verify your academic credentials (confirmation of enrollment and medical degree) prior to applying for any Step exam.
- You will be certified electronically by the Educational Commission for Foreign Medical Graduates (ECFMG) after above steps are successfully completed. You should receive your formal ECFMG certificate in the mail within the next 1–2 weeks. The ECFMG will not issue a certificate (even if all the USMLE scores are submitted) until it verifies your medical diploma with your medical school.
- You must have a valid ECFMG certificate before entering an accredited residency program in the United States, although you can begin the Electronic Residency Application Service (ERAS) application and interviews before you receive the certificate.
- Apply for residency positions in your fields of interest, either directly or through the ERAS and the National Residency Matching Program (NRMP), otherwise known as “the Match.” To be entered into the Match, you need to have passed all the examinations necessary for ECFMG certification (ie, Step 1, Step 2 CK, and Step 2 CS) by the rank order list

deadline (usually in late February before the Match). If you do not pass these exams by the deadline, you will be withdrawn from the Match.

- If you are not a US citizen or green-card holder (permanent resident), you will need to obtain a visa that will allow you to enter and work in the United States after you have matched successfully.
- Sign up to receive the ECFMG and ERAS email newsletter to keep up to date with their most current policies and deadlines.
- If required by the state in which your residency program is located, obtain an educational/training/limited medical license. Your residency program may assist you with this application. Note that medical licensing is the prerogative of each individual state, not of the federal government, and that states vary with respect to their laws about licensing.
- Once you have the ECFMG certification, take the USMLE Step 3 during your residency, and then obtain a full medical license. Once you have a state-issued license, you are permitted to practice in federal institutions such as Veterans Affairs (VA) hospitals and Indian Health Service facilities in any state. This can open the door to “moonlighting” opportunities and possibilities for an H1B visa application if relevant. For details on individual state rules, write to the licensing board in the state in question or contact the Federation of State Medical Boards (FSMB). If you need to apply for an H1B visa for starting residency, you need to first take and pass the USMLE Step 3 exam, preferably before you Match. However, you will be able to apply for and take the USMLE Step 3 exam only after you graduate from medical school.
- Complete your residency and then take the appropriate specialty board exams if you wish to become board certified (eg, in internal medicine or surgery). If you already have a specialty certification in another country, some specialty boards may grant you six months’ or one year’s credit toward your total residency time.
- Currently, most residency programs are accepting applications through ERAS. For more information, see *First Aid for the Match* or contact:

ECFMG/ERAS Program

3624 Market Street

Philadelphia, PA 19104-2685 USA

(215) 386-5900

Email: eras-support@ecfm.org

www.ecfm.org/eras

- For detailed information on the USMLE Steps, visit the USMLE website at <http://www.usmle.org>.

The USMLE and the IMG

The USMLE is a series of standardized exams that give IMGs and US medical graduates a level playing field. The passing marks for IMGs for Step 1, Step 2 CK, and Step 2 CS are determined by a statistical distribution that is based on the scores of US medical school students. For example, to pass

► Keep informed by signing up for the ECFMG email newsletter at www.ecfm.org/resources.

▶ *IMGs have a maximum of six attempts to pass any USMLE Step, and must pass the USMLE Steps required for ECFMG certification within a seven-year period.*

Step 1, you will probably have to score higher than the bottom 8–10% of US and Canadian graduates.

Under USMLE program rules, a maximum of six attempts will be permitted to pass any USMLE Step or component exam. There is a limit of three attempts within a 12-month period for any of the USMLE Steps.

Timing of the USMLE

For an IMG, the timing of a complete application is critical. It is extremely important that you send in your application early if you are to obtain the maximum number of interviews. Complete all exam requirements by August of the year in which you wish to apply. Check the ECFMG website for deadlines to take and pass the various Step exams to be eligible for the NRMP Match.

IMG applicants must pass the USMLE Steps required for ECFMG certification (Step 1, Steps 2 CK and 2 CS) within a seven-year period. The USMLE program recommends, although not all jurisdictions impose, a seven-year limit for completion of the three-step USMLE program.

In terms of USMLE exam order, arguments can be made for taking the Step 1 or the Step 2 CK exam first. For example, you may consider taking the Step 2 CK exam first if you have just graduated from medical school and the clinical topics are still fresh in your mind. However, keep in mind that there is substantial overlap between Step 1 and Step 2 CK topics in areas such as pharmacology, pathophysiology, and biostatistics. You might therefore consider taking the Step 1 and Step 2 CK exams close together to take advantage of this overlap in your test preparation.

USMLE Step 1 and the IMG

Significance of the Test. Step 1 is one of the three exams required for the ECFMG certification. Since most US graduates apply to residency with their Step 1 scores only, it may be the only objective tool available with which to compare IMGs with US graduates.

Eligibility Period. A three-month period of your choice.

Fee. The fee for Step 1 is \$880 plus an international test delivery surcharge (if you choose a testing region other than the United States or Canada).

Statistics. In 2014–2015, 78% of IMG examinees passed Step 1 on their first attempt, compared with 96% of MD degree examinees from the United States and Canada.

▶ *A higher Step 1 score will improve your chances of getting into a highly competitive specialty.*

Tips. Although few if any students feel totally prepared to take Step 1, IMGs in particular require serious study and preparation in order to reach their full potential on this exam. It is also imperative that IMGs do their best on Step 1, as a poor score on Step 1 is a distinct disadvantage in applying for

most residencies. Remember that if you pass Step 1, you cannot retake it in an attempt to improve your score. Your goal should thus be to beat the mean, because you can then assert with confidence that you have done better than average for US students (see Table 1). Higher Step 1 scores will also lend credibility to your residency application and help you get into highly competitive specialties such as radiology, orthopedics, and dermatology.

Commercial Review Courses. Do commercial review courses help improve your scores? Reports vary, and such courses can be expensive. For some students these programs can provide a more structured learning environment with professional support. However, review courses consume a significant chunk of time away from independent study. Many IMGs participate in review courses as they typically need higher scores to compete effectively with US and Canadian candidates for residency positions. (For more information on review courses, see Section IV in the book.)

USMLE Step 2 CK and the IMG

What Is the Step 2 CK? It is a computerized test of the clinical sciences consisting of up to 318 multiple-choice questions divided into eight blocks. Each block contains a maximum of 40 questions and needs to be completed within 60 minutes. It can be taken at Prometric centers in the United States and several other countries.

TABLE 1. USMLE Step 1 Mean Score of Matched Applicants in 2014.

Specialty	US Graduates	US IMGs	Non-US IMGs
All specialties	230	217	227
Anesthesiology	230	234	226
Dermatology ^a	247	—	—
Emergency medicine	230	225	226
Family medicine	218	206	213
Internal medicine	231	221	231
Neurology	230	216	230
Obstetrics and gynecology	226	221	226
Pathology	231	224	226
Pediatrics	226	216	223
Physical medicine and rehabilitation	220	223	220
Psychiatry	220	205	214
Diagnostic radiology	241	237	232
General surgery	232	227	233

^aNo PGY-1 positions were filled by IMGs. Fourteen PGY-2 positions were filled by IMGs. Source: www.nrmp.org.

► *The areas tested on the Step 2 CK relate to the clerkships provided at US medical schools.*

Content. The Step 2 CK includes test items in the following content areas:

- Internal medicine
- Obstetrics and gynecology
- Pediatrics
- Preventive medicine
- Psychiatry
- Surgery
- Other areas relevant to the provision of care under supervision

Significance of the Test. The Step 2 CK is required for the ECFMG certificate. It reflects the level of clinical knowledge of the applicant. It tests clinical subjects, primarily internal medicine. Other areas tested are orthopedics, ENT, ophthalmology, safety science, epidemiology, professionalism, and ethics.

Eligibility. Students and graduates from medical schools that are listed in WDOMS and meet the ECFMG eligibility requirement to take the Step 2 CK. Students must have completed at least two years of medical school. This means that students must have completed the basic medical science component of the medical school curriculum by the beginning of the eligibility period selected.

Eligibility Period. A three-month period of your choice.

Fee. The fee for the Step 2 CK is \$880 plus an international test delivery surcharge (if you choose a testing region other than the United States or Canada).

Statistics. In 2014–2015, 75% of ECFMG candidates passed the Step 2 CK on their first attempt, compared with 96% of MD degree examinees from US and Canadian schools.

► *Be familiar with topics that are heavily emphasized in US medicine, such as cholesterol screening.*

Tips. It's better to take the Step 2 CK after your internal medicine rotation because most of the questions on the exam give clinical scenarios and ask you to make medical diagnoses and clinical decisions. In addition, because this is a clinical sciences exam, cultural and geographic considerations play a greater role than is the case with Step 1. For example, if your medical education gave you ample exposure to malaria, brucellosis, and malnutrition but little to alcohol withdrawal, child abuse, and cholesterol screening, you must work to familiarize yourself with topics that are more heavily emphasized in US medicine. You must also have a basic understanding of the legal and social aspects of US medicine, because you will be asked questions about communicating with and advising patients.

USMLE Step 2 CS and the IMG

What Is the Step 2 CS? The Step 2 CS is a test of clinical and communication skills administered as a one-day, eight-hour exam. It includes 12 encounters with standardized patients (15 minutes each, with 10 minutes to write a note after each encounter).

Content. The Step 2 CS tests the ability to communicate in English as well as interpersonal skills, data-gathering skills, the ability to perform a physical exam, and the ability to formulate a brief note, a differential diagnosis, and a list of diagnostic tests. The areas that are covered in the exam are as follows:

- Internal medicine
- Surgery
- Obstetrics and gynecology
- Pediatrics
- Psychiatry
- Family medicine

Unlike the USMLE Step 1, Step 2 CK, or Step 3, **there are no numerical grades for the Step 2 CS**—it's simply either a “pass” or a “fail.” To pass, a candidate must attain a passing performance in **each** of the following three components:

- Integrated Clinical Encounter (ICE): includes Data Gathering, Physical Exam, and the electronic Patient Note
- Spoken English Proficiency (SEP)
- Communication and Interpersonal Skills (CIS)

According to the NBME, the most commonly failed component for IMGs is the CIS.

Significance of the Test. The Step 2 CS assesses spoken English language proficiency and is required for the ECFMG certificate. The Test of English as a Foreign Language (TOEFL) is no longer required.

Eligibility. Students must have completed at least two years of medical school in order to take the test. That means students must have completed the basic medical science component of the medical school curriculum at the time they apply for the exam.

Fee. The fee for the Step 2 CS is \$1535.

Statistics. In 2014–2015, 80% of ECFMG candidates passed the Step 2 CS on their first attempt, compared with 96% of MD degree examinees from US and Canadian schools.

Scheduling. You must schedule the Step 2 CS within **four months** of the date indicated on your notification of registration. You must take the exam within 12 months of the date indicated on your notification of registration. It is generally advisable to take the Step 2 CS as soon as possible in the year before your Match, as often the results either come in late or arrive too late to allow you to retake the test and pass it before the Match.

Test Site Locations. The Step 2 CS is currently administered at the following five locations:

- Philadelphia, PA
- Atlanta, GA

▶ *The Step 2 CS is graded as pass/fail.*

▶ *Try to take the Step 2 CS the year before you plan to Match.*

- Los Angeles, CA
- Chicago, IL
- Houston, TX

For more information about the Step 2 CS exam, please refer to *First Aid for the Step 2 CS*.

USMLE Step 3 and the IMG

What Is the USMLE Step 3? It is a two-day computerized test in clinical medicine consisting of 413 multiple-choice questions and 13 computer-based case simulations (CCS). The exam aims to test your knowledge and its application to patient care and clinical decision making (ie, this exam tests if you can safely practice medicine independently and without supervision). Please go to the USMLE website to learn more about recent changes to the exam.

► Complete the Step 3 exam before you apply for an H1B visa.

Significance of the Test. Taking Step 3 before residency is critical for IMGs seeking an H1B visa and is also a bonus that can be added to the residency application. Step 3 is also required to obtain a full medical license in the United States and can be taken during residency for this purpose.

Fee. The fee for Step 3 is \$830.

Eligibility. Examinees are no longer required to apply to the Step 3 exam under the eligibility requirements of a specific medical licensing authority. Those wishing to sit for the Step 3 exam, independent of the place of residence, must meet the following requirements:

- Have completed an MD or DO degree from an LCME- or AOA-accredited US or Canadian medical school, or from a medical school outside the US and Canada listed in the International Medical Education Directory.
- Have taken and passed the Step 1, Step 2 CK, and Step 2 CS exams.
- If an IMG: be certified by the ECFMG or have completed a Fifth Pathway program.

The Step 3 exam is not available outside the United States. Applications can be found online at www.fsmb.org and must be submitted to the FSMB.

Statistics. In 2015–2016, 89% of IMG candidates passed the Step 3 on their first attempt, compared with 98% of MD degree examinees from US and Canadian schools.

Residencies and the IMG

In the Match, the number of US-citizen IMG applications has grown over the past few years, while the percentage accepted has remained constant (see Table 2). More information about residency programs can be obtained at www.ama-assn.org.

TABLE 2. IMGs in the Match.

Applicants	2013	2014	2015	2016
US-citizen IMGs	5,095	5,133	5,014	5,323
% US-citizen IMGs accepted	53	53	53.1	53.9
Non-US-citizen IMGs	7,568	7,334	7,366	7,460
% non-US-citizen IMGs accepted	48	49.5	49.4	50.5
US seniors (non-IMGs)	17,487	17,374	18,025	18,187
% US seniors accepted	94	94	93.1	93.8

Source: www.nrmp.org.

The Match and the IMG

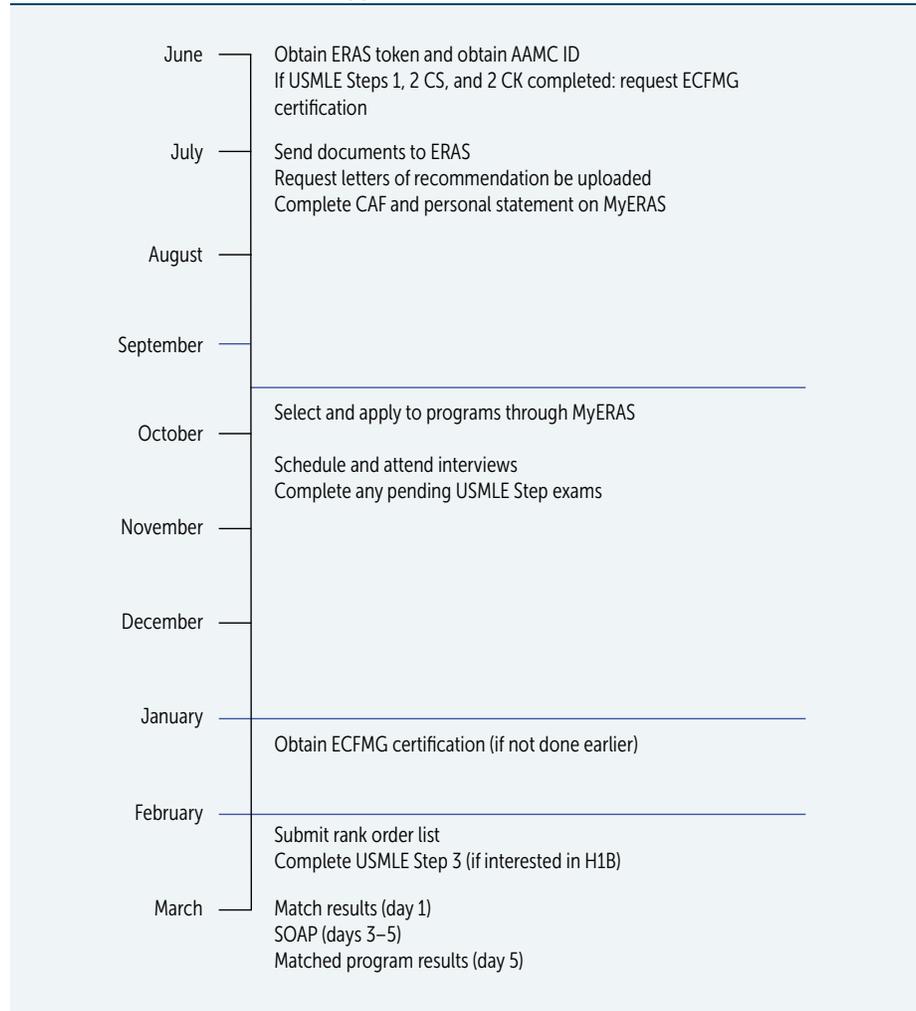
Given the growing number of IMG candidates with strong applications, you should bear in mind that good USMLE scores are not the only way to gain a competitive edge. However, USMLE Step 1 and Step 2 CK scores continue to be used as the initial screening mechanism when candidates are being considered for interviews.

Based on accumulated IMG Match experiences over recent years, here are a few pointers to help IMGs maximize their chances for a residency interview:

- Apply early.** Programs offer a limited number of interviews and often select candidates on a first-come, first-served basis. Because of this, you should aim to complete the entire process of applying for the ERAS token, registering with the Association of American Medical Colleges (AAMC), mailing necessary documents to ERAS, and completing the ERAS application by mid-September (see Figure 1). Community programs usually send out interview offers earlier than do university and university-affiliated programs.
- US clinical experience helps.** Externships and observerships in a US hospital setting have emerged as an important credential on an IMG application. Externships are like short-term medical school internships and offer hands-on clinical experience. Observerships, also called “shadowing,” involve following a physician and observing how he or she manages patients. Some programs require students to have participated in an externship or observership before applying. It is best to gain such an experience before or at the time you apply to various programs so that you can mention it on your ERAS application. If such an experience or opportunity comes up after you apply, be sure to inform the programs accordingly.
- Clinical research helps.** University programs are attracted to candidates who show a strong interest in clinical research and academics. They may even relax their application criteria for individuals with unique backgrounds and strong research experience. Publications in well-known journals are an added bonus.

► All US hospitals allow externship only when the applicant is actively enrolled in a medical school, so plan ahead.

FIGURE 1. IMG Timeline for Application.



- **Time the Step 2 CS well.** ECFMG has published the new Step 2 CS score-reporting schedule for 2016–2017 at <http://www.ecfmg.org>. Most program directors would like to see a passing score on the Step 1, Step 2 CK, and Step 2 CS exams before they rank an IMG on their rank order list in mid-February. There have been many instances in which candidates have lost a potential Match—either because of delayed CS results or because they have been unable to retake the exam on time following a failure. It is difficult to predict a result on the Step 2 CS, since the grading process is not very transparent. Therefore, it is advisable to take the Step 2 CS as early as possible in the application year.
- **US letters of recommendation help.** Letters of recommendation from clinicians practicing in the United States carry more weight than recommendations from home countries.
- **Step up the Step 3.** If H1B visa sponsorship is desired, aim to have Step 3 results by January of the Match year. In addition to the visa advantage you will gain, an early and good Step 3 score may benefit IMGs who have been away from clinical medicine for a while as well as those who have

▶ *A good score on the Step 3 may help offset poorer scores on the Step 1 or 2 CK exams.*

low scores on Step 1 and the Step 2 CK. Note that the Step 3 can be taken only after medical school graduation.

- **Verify medical credentials in a timely manner.** Do not overlook the medical school credential verification process. The ECFMG certificate arrives only after credentials have been verified and after you have passed Step 1, the Step 2 CK, and the Step 2 CS, so you should keep track of the process and check their application status online using IWA/OASIS.
- **Don't count on a pre-Match.** Programs participating in NRMP Match can no longer offer a pre-Match.

What if You Do Not Match?

For applicants who do not Match into a residency program, there's SOAP (Supplemental Offer and Acceptance Program). Under SOAP, unmatched applicants will have access to the list of unfilled programs at noon Eastern time on the Monday of Match week. The unfilled programs electing to participate in SOAP will offer positions to unmatched applicants through the Registration, Ranking, and Results (R3) system. A series of "rounds" will begin at noon Eastern time on Wednesday of Match week until 5:00 PM Eastern time on Friday of Match week. Detailed information about SOAP can be found at the NRMP website at <http://www.nrmp.org>.

► *The Scramble has been replaced by SOAP (Supplemental Offer and Acceptance Program).*

Resources for the IMG

- **Educational Commission for Foreign Medical Graduates (ECFMG)**
3624 Market Street
Philadelphia, PA 19104-2685
(215) 386-5900
Fax: (215) 386-9196
Email: info@ecfm.org
www.ecfm.org

The ECFMG telephone number is answered only between 9:00 AM–5:00 PM Monday through Friday EST. The ECFMG often takes a long time to answer the phone, which is frequently busy at peak times of the year, and then gives you a long voice-mail message—so it is better to write or fax early than to rely on a last-minute phone call. Do not contact the NBME, as all IMG exam matters are conducted by the ECFMG. The ECFMG also publishes an information booklet on ECFMG certification and the USMLE program, which gives details on the dates and locations of forthcoming Step tests for IMGs together with application forms. It is free of charge and is also available from the public affairs offices of US embassies and consulates worldwide as well as from Overseas Educational Advisory Centers. You may order single copies of the handbook by calling (215) 386-5900, preferably on weekends or between 6 PM and 6 AM Eastern time, or by faxing to (215) 386-9196. Requests for multiple copies must be made by fax or mail on organizational letterhead. The full text of the booklet is also available on the ECFMG's website at www.ecfm.org, where they also have a complete list of fees for certification posted (see Table 3).

TABLE 3. Estimated Costs for IMGs (as of 2016).

Exams and Services	Fee(s)
USMLE Step 1	\$880 + international surcharge (eg, \$185 in all European countries offering the exam)
USMLE Step 2 CK	\$880 + international surcharge (eg, \$210 in all European countries offering the exam)
USMLE Step 2 CS	\$1535
USMLE Step 3	\$830
ERAS	\$105 registration fee \$80 USMLE transcript assessment \$99 for programs 1–10 \$12 each for programs 11–20 \$16 each for programs 21–30 \$26 each for programs 31+
NRMP	\$75 registration fee (for ranking 20 programs) \$30 per additional program ranked \$15 per partner (couples match only) \$50 late registration fee (sign up before November to avoid paying this fee)
J-1 visa application fee	\$285 plus an additional \$180 payable to Homeland Security

- **Federation of State Medical Boards (FSMB)**

400 Fuller Wisser Road, Suite 300
Eules, TX 76039-3856
(817) 868-4041
Fax: (817) 868-4098
Email: usmle@fsmb.org
www.fsmb.org

The FSMB has a number of publications available, including free policy documents. To obtain these publications, print and mail the order form on the website listed above. Alternatively, write to Federation Publications at the above address. All orders must be prepaid with a personal check drawn on a US bank, a cashier's check, or a money order payable to the FSMB. Foreign orders must be accompanied by an international money order or the equivalent, payable in US dollars through a US bank or a US affiliate of a foreign bank. For Step 3 inquiries, the telephone number is (817) 868-4041.

The AMA has dedicated a portion of its website to information on IMG demographics, residencies, immigration, and the like. This information can be found at www.ama-assn.org.

Other resources that may be useful and of interest to IMGs include the following:

- *The International Medical Graduate's Guide to US Medicine and Residency Training*, by Patrick C. Alquire, Gerald P. Whelan, and Vijay Rajput (2009; ISBN 9781934465080).
- *The International Medical Graduate's Best Hope*, by Franck Belibi and Suzanne Belibi (2009; ISBN 9780979877308).

▶ FIRST AID FOR THE OSTEOPATHIC MEDICAL STUDENT

What Is the COMLEX-USA Level 1?

The National Board of Osteopathic Medical Examiners (NBOME) administers the Comprehensive Osteopathic Medical Licensing Examination, or COMLEX-USA. Like the USMLE, the COMLEX-USA is administered over three levels.

The COMLEX-USA series assesses osteopathic medical knowledge and clinical skills using clinical presentations and physician tasks. A description of the COMLEX-USA Written Examination Blueprints for each level, which outline the various clinical presentations and physician tasks that examinees will encounter, is given on the NBOME website. Another stated goal of the COMLEX-USA Level 1 is to create a more primary care-oriented exam that integrates osteopathic principles into clinical situations.

To be eligible to take the COMLEX-USA Level 1, you must be on track to satisfactorily complete your first two years in an AOA-accredited medical school. The office of the dean at each school informs the NBOME that the student will complete the first two years of medical school and is in good standing. At this point, the NBOME sends out an email with detailed instructions on how to register for the exam.

For all three levels of the COMLEX-USA, raw scores are converted to a percentile score and a score ranging from 5 to 800. For Levels 1 and 2, a score of 400 is required to pass; for Level 3, a score of 350 is needed. COMLEX-USA scores are posted at the NBOME website 4–6 weeks after the test and usually mailed within 8 weeks after the test. The mean score is always 500. As of February 1, 2015, score reports no longer indicate whether a test accommodation was granted.

If you pass a COMLEX-USA examination, you are not allowed to retake it to improve your grade. Currently, if you fail, there is no specific limit to the number of times you can retake it in order to pass. However, a student may not take the exam more than four times in one year. Levels 2 and 3 exams must be passed in sequential order within seven years of passing Level 1.

Note that effective July 1, 2016, candidates taking COMLEX-USA examinations will be limited to a total of six attempts for each examination.

What Is the Structure of the COMLEX-USA Level 1?

The COMLEX-USA Level 1 is a computer-based examination consisting of 400 questions over an eight-hour period in a single day (nine hours counting breaks). Most of the questions are in one-best-answer format, but a small number are matching-type questions. Some one-best-answer questions are bundled together around a common question stem that usually takes the form of a clinical scenario. Every section of the COMLEX-USA Level 1 ends with either matching questions, multiple questions around a single stem, or both. New question formats may gradually be introduced, but candidates will be notified if this occurs. Multimedia questions are also included on the exam.

Questions are grouped into eight sections of 50 questions each in a manner similar to the USMLE. Reviewing and changing answers may be done only in the current section. A “review page” is presented for each block in order to advise test takers of questions completed, questions marked for further review, and incomplete questions for which no answer has been given.

Breaks are even more structured with COMLEX-USA than they are with the USMLE. Students are allowed to take a 10-minute break at the end of the second and sixth sections. Students who do not take these 10-minute breaks can apply the time toward their test time. After section 4, students are given a 40-minute lunch break. These are the only times a student is permitted a break. More information about the computer-based COMLEX-USA examinations can be obtained from www.nbome.org.

What Is the Difference Between the USMLE and the COMLEX-USA?

According to the NBOME, the COMLEX-USA Level 1 focuses broadly on the following categories, with osteopathic principles and practices integrated into each section:

- Health promotion and disease prevention
- The history and physical
- Diagnostic technologies
- Management
- Scientific understanding of mechanisms
- Health care delivery

► *The test interface for the COMLEX-USA Level 1 is not the same as the USMLE Step 1 interface.*

Although the COMLEX-USA and the USMLE are similar in scope, content, and emphasis, some differences are worth noting. For example, the interface is different; you cannot search for lab values. Fewer details are given about a patient’s condition, so a savvy student needs to know how to differentiate between similar pathologies. Also, age, gender, and race are key factors for diagnosis on the COMLEX-USA. Images or videos are embedded in the question stem and the examinee has to click an attachment button to see the image. If you don’t read the question carefully, the attachment buttons are very easy to miss.

COMLEX-USA Level 1 tests osteopathic principles in addition to basic science materials but does not emphasize lab techniques. Although both exams often require that you apply and integrate knowledge over several areas of basic science to answer a given question, many students who took both tests reported that the questions differed somewhat in style. Students reported, for example, that USMLE questions generally required that the test taker reason and draw from the information given (often a two-step process), whereas those on the COMLEX-USA exam tended to be more straightforward and that multiple different questions are asked pertaining to one question stem.

COMLEX-USA test takers can expect to have only a few questions on biochemistry, molecular biology, or lab technique. On the other hand, microbiology is very heavily tested by clinical presentation and by lab identification. Another main difference is that the COMLEX-USA exam stresses osteopathic manipulative medicine. Therefore, question banks specific to the USMLE will not be adequate, and supplementation with a question bank specific to the COMLEX-USA is highly recommended. The most commonly used are COMBANK or COMQUEST.

Students also commented that the COMLEX-USA utilized “buzzwords,” although limited in their use (eg, “rose spots” in typhoid fever), whereas the USMLE avoided buzzwords in favor of descriptions of clinical findings or symptoms (eg, rose-colored papules on the abdomen rather than rose spots). Finally, USMLE appeared to have more photographs than did the COMLEX-USA. In general, the overall impression was that the USMLE was a more “thought-provoking” exam, while the COMLEX-USA was more of a “knowledge-based” exam.

Who Should Take Both the USMLE and the COMLEX-USA?

Aside from facing the COMLEX-USA Level 1, you must decide if you will also take the USMLE Step 1. We recommend that you consider taking both the USMLE and the COMLEX-USA under the following circumstances:

- **If you are applying to allopathic residencies.** Although there is growing acceptance of COMLEX-USA certification on the part of allopathic residencies, some allopathic programs prefer or even require passage of the USMLE Step 1. These include many academic programs, programs in competitive specialties (eg, orthopedics, ophthalmology, or dermatology), and programs in competitive geographic areas (eg, Vermont, Utah, and California). Fourth-year doctor of osteopathy (DO) students who have already Matched may be a good source of information about which programs and specialties look for USMLE scores. It is also a good idea to contact program directors at the institutions you are interested in to ask about their policy regarding the COMLEX-USA versus the USMLE.
- **If you are unsure about your postgraduate training plans.** Successful passage of both the COMLEX-USA Level 1 and the USMLE Step 1 is certain to provide you with the greatest possible range of options when you are applying for internship and residency training.

► *If you're not sure whether you need to take either the COMLEX-USA Level 1 or the USMLE Step 1, consider taking both to keep your Match options open.*

In addition, the COMLEX-USA Level 1 has in recent years placed increasing emphasis on questions related to primary care medicine and prevention. Having a strong background in family or primary care medicine can help test takers when they face questions on prevention.

How Do I Prepare for the COMLEX-USA Level 1?

Student experience suggests that you should start studying for the COMLEX-USA four to six months before the test is given, as an early start will allow you to spend up to a month on each subject. The recommendations made in Section I regarding study and testing methods, strategies, and resources, as well as the books suggested in Section IV for the USMLE Step 1, hold true for the COMLEX-USA as well.

Another important source of information is in the *Examination Guidelines and Sample Exam*, a booklet that discusses the breakdown of each subject while also providing sample questions and corresponding answers. Many students, however, felt that this breakdown provided only a general guideline and was not representative of the level of difficulty of the actual COMLEX-USA. The sample questions did not provide examples of clinical vignettes, which made up approximately 25% of the exam. You will receive this publication with registration materials for the COMLEX-USA Level 1, but you can also receive a copy and additional information by writing:

NBOME

8765 W. Higgins Road, Suite 200
Chicago, IL 60631-4174
(773) 714-0622
Fax: (773) 714-0631
www.nbome.org

The NBOME developed the Comprehensive Osteopathic Medical Self-Assessment Examination (COMSAE) series to fill the need for self-assessment on the part of osteopathic medical students. Many students take the COMSAE exam before the COMLEX-USA in addition to using test-bank questions and board review books. Students can purchase a copy of this exam at www.nbome.org/comsae.asp.

In recent years, students have reported an emphasis in certain areas. For example:

▶ You must know the Chapman reflex points and the obscure names of physical exam signs.

- There was an increased emphasis on upper limb anatomy/brachial plexus.
- Specific topics were repeatedly tested on the exam. These included cardiovascular physiology and pathology, acid-base physiology, diabetes, benign prostatic hyperplasia, sexually transmitted diseases, measles, and rubella. Thyroid and adrenal function, neurology (head injury), specific drug treatments for bacterial infection, migraines/cluster headaches, and drug mechanisms also received heavy emphasis.

- Behavioral science questions were based on psychiatry.
- High-yield osteopathic manipulative technique (OMT) topics included an emphasis on the sympathetic and parasympathetic innervations of viscera and nerve roots, rib mechanics/diagnosis, and basic craniosacral theory. Students who spend time reviewing basic anatomy, studying nerve and dermatome innervations, and understanding how to perform basic OMT techniques (eg, muscle energy or counterstrain) can improve their scores.

The COMLEX-USA Level 1 also includes multimedia-based questions. Such questions test the student's ability to perform a good physical exam and to elicit various physical diagnostic signs (eg, Murphy sign).

► FIRST AID FOR THE PODIATRIC MEDICAL STUDENT

The National Board of Podiatric Medical Examiners (NBPME) offers the American Podiatric Medical Licensing Examinations (APMLE), which are designed to assess whether a candidate possesses the knowledge required to practice as a minimally competent entry-level podiatric surgeon. The APMLE is used as part of the licensing process governing the practice of podiatric medicine and surgery. The APMLE is recognized by all 50 states and the District of Columbia, the US Army, the US Navy, and the Canadian provinces of Alberta, British Columbia, and Ontario. Individual states use the examination scores differently; therefore, doctor of podiatric medicine (DPM) candidates should refer to the *APMLE Bulletin of Information: 2014 Examinations*.

The APMLE Part I is generally taken after the completion of the second year of podiatric medical education. Unlike the USMLE Step 1, there is no behavioral science section, nor is biomechanics tested. The exam samples seven basic science disciplines: general anatomy (13%); lower extremity anatomy (25%); biochemistry (7%); physiology (13%); microbiology and immunology (15%); pathology (12%); and pharmacology (15%). A detailed outline of topics and subtopics covered on the exam can be found in the *APMLE Bulletin of Information*, available at www.apmle.org.

► Areas tested on the NBPME Part I:

- General anatomy
- Lower extremity anatomy
- Biochemistry
- Physiology
- Medical microbiology & immunology
- Pathology
- Pharmacology

Your APMLE Appointment

In early spring, your college registrar will have you fill out an application for the APMLE Part I. New this year, applicants can register for the exam online at www.prometric.com/NBPME. The exam will be offered at an independent Prometric testing facility in each city with a podiatric medical school (New York, Philadelphia, Miami, Cleveland, Chicago, Des Moines, Phoenix, Pomona, and San Francisco), along with any other city Prometric deems necessary. Please contact Prometric for a full list of testing sites. You may take the exam at any of these locations regardless of which school you attend. However, you must designate on your application which testing location you

desire. Specific instructions about exam dates and registration deadlines can be found in the *APMLE Bulletin*.

Exam Format

The APMLE Part I is a written exam consisting of 205 questions. The test consists of multiple choice questions that have one best answer or multiple “select all that apply” answers, as well as a drag-and-drop section. Examinees have four hours in which to complete the exam and are given scratch paper and a calculator, both of which must be turned in at the end of the exam. Some questions on the exam will be “trial questions.” These questions are evaluated as future board questions but are not counted in your score.

Interpreting Your Score

Three to four weeks following the exam date, the dean’s office at the student’s respective school will receive scores. APMLE scores are reported as pass/fail, with a scaled score of at least 75 needed to pass. Historically, 85% of first-time test takers pass the APMLE Part I. Failing candidates receive a report with a score between 55 and 74 in addition to diagnostic messages intended to help identify strengths or weaknesses in specific content areas. If you fail the APMLE Part I, you must retake the entire examination at a later date. There is no limit to the number of times you can retake the exam.

Preparation for the APMLE Part I

Begin studying for the APMLE Part I at least three months prior to the test date. The suggestions made in Section I regarding study and testing methods for the USMLE Step 1 can be applied to the APMLE as well. This book should, however, be used as a supplement and not as the sole source of information. Neither you nor your school or future residency will ever see your actual passing numerical score. Competing with colleagues should not be an issue, and study groups are beneficial to many.

► *Know the anatomy of the lower extremity!*

A study method that helps many students is to copy the outline of the material to be tested from the *APMLE Bulletin*. Check off each topic during your study, because doing so will ensure that you have engaged each topic. If you are pressed for time, prioritize subjects on the basis of their weight on the exam. A full 25% of the APMLE Part I focuses on lower extremity anatomy. In this area, students should rely on the notes and material that they received from their class. Remember, lower extremity anatomy is the podiatric physician’s specialty—so everything about it is important. Do not forget to study osteology. Keep your old tests and look through old lower extremity class exams, since each of the podiatric colleges submits questions from its faculty. This strategy will give you an understanding of the types of questions that may be asked. On the APMLE Part I, you will see some of the same classic lower extremity anatomy questions you were tested on in school.

The APMLE, like the USMLE, requires that you apply and integrate knowledge over several areas of basic science in order to answer exam questions. Students report that many questions emphasize clinical presentations; however, the facts in this book are very useful in helping students recall the various diseases and organisms. DPM candidates should expand on the high-yield pharmacology section and study antifungal drugs and treatments for *Pseudomonas*, methicillin-resistant *S aureus*, candidiasis, and erythrasma. The high-yield section focusing on pathology is very useful; however, additional emphasis on diabetes mellitus and all its secondary manifestations, particularly peripheral neuropathy, should not be overlooked. Students should also focus on renal physiology and drug elimination, the biochemistry of gout, and neurophysiology, all of which have been noted to be important topics on the APMLE Part I exam.

A sample set of questions is found on the APMLE website www.apmle.org. These samples are somewhat similar in difficulty to actual board questions. If you have any questions regarding registration, fees, test centers, authorization forms, or score reports, please contact your college registrar or:

Prometric

Phone: 877-302-8952

Fax: 800-813-6670

Email: nbpmeinquiry@prometric.com

www.prometric.com

▶ FIRST AID FOR THE STUDENT REQUIRING TEST ACCOMMODATIONS

The USMLE provides accommodations for students with documented disabilities. The basis for such accommodations is the Americans with Disabilities Act (ADA) of 1990. The ADA defines a disability as “a significant limitation in one or more major life activities.” This includes both “observable/physical” disabilities (eg, blindness, hearing loss, narcolepsy) and “hidden/mental disabilities” (eg, attention-deficit hyperactivity disorder, chronic fatigue syndrome, learning disabilities).

To provide appropriate support, the administrators of the USMLE must be informed of both the nature and the severity of an examinee’s disability. Such documentation is required for an examinee to receive testing accommodations. Accommodations include extra time on tests, low-stimulation environments, extra or extended breaks, and zoom text.

▶ *US students seeking ADA-compliant accommodations must contact the NBME directly; IMGs, contact the ECFMG.*

Who Can Apply for Accommodations?

Students or graduates of a school in the United States or Canada that is accredited by the Liaison Committee on Medical Education (LCME) or the AOA may apply for test accommodations directly from the NBME. Requests are granted only if they meet the ADA definition of a disability. If you are a

disabled student or a disabled graduate of a foreign medical school, you must contact the ECFMG (see the following page).

Who Is Not Eligible for Accommodations?

Individuals who do not meet the ADA definition of disabled are not eligible for test accommodations. Difficulties not eligible for test accommodations include test anxiety, slow reading without an identified underlying cognitive deficit, English as a second language, and learning difficulties that have not been diagnosed as a medically recognized disability.

Understanding the Need for Documentation

Although most learning-disabled medical students are all too familiar with the often exhausting process of providing documentation of their disability, you should realize that **applying for USMLE accommodation is different from these previous experiences**. This is because the NBME determines whether an individual is disabled solely on the basis of the guidelines set by the ADA. **Previous accommodation does not in itself justify provision of an accommodation for the USMLE**, so be sure to review the NBME guidelines carefully.

Getting the Information

The first step in applying for USMLE special accommodations is to contact the NBME and obtain a guidelines and questionnaire booklet. For the Step 1, Step 2 CK, and Step 2 CS exams, this can be obtained by calling or writing to:

Disability Services

National Board of Medical Examiners
3750 Market Street
Philadelphia, PA 19104-3102
(215) 590-9509
Fax: (215) 590-9457
Email: disabilityservices@nbme.org
www.usmle.org/test-accommodations

Internet access to this information is also available at www.nbme.org. This information is also relevant for IMGs, since the information is the same as that sent by the ECFMG.

Foreign graduates should contact the ECFMG to obtain information on special accommodations by calling or writing to:

ECFMG

3624 Market Street
Philadelphia, PA 19104-2685
(215) 386-5900
www.ecfmg.org

When you get this information, take some time to read it carefully. The guidelines are clear and explicit about what you need to do to obtain accommodations.