NBME Services and Resources for Medical Students

www.nbme.org
Improving healthcare around the world through assessment

The National Board of Medical Examiners® (NBME®) is an independent, not-for-profit organization that provides high-quality examinations for the health professions. Protection of the health of the public through state of the art assessment of health professionals is the mission of the NBME, along with a major commitment to research and development in evaluation and measurement. The NBME was founded in 1915 because of the need for a voluntary, nationwide examination that medical licensing authorities could accept as the standard by which to judge candidates for medical licensure. Since that time, it has continued without interruption to provide high-quality examinations for this purpose and has become a model and a resource of international stature in testing methodologies and evaluation in medicine.

The NBME provides a variety of services and resources globally to medical schools, students and residents. NBME provides products and services you can use throughout your medical education and into your practice as a licensed physician. We invite you to learn more about them through this orientation packet. You can also visit our website at www.nbme.org.
**United States Medical Licensing Examination® (USMLE®)**

USMLE is a three-step examination for medical licensure. The program supports medical licensing authorities in the United States through its leadership in the development, delivery, and continual improvement of high-quality assessments across the continuum of physicians’ preparation for practice.

**NBME Self-Assessment Services**

Web-based self-assessments are intended for students to use when assessing their readiness for USMLE or to monitor their learning during individual clinical science courses.

**Subject Examination Program**

NBME offers standardized, objective, discipline-based exams to medical schools for use throughout medical education. NBME subject examinations are achievement tests in a broad sense, requiring medical students to solve scientific and clinical problems.

**Customized Assessment Services (CAS)**

CAS allows medical school faculty to create examinations tailored to local curriculum from a pool of test items covering topics commonly taught in basic science coursework. This service is intended to complement other sources of information about educational progress of students.

**International Foundations of Medicine (IFOM®)**

The IFOM examinations measure the core knowledge expected internationally of students at critical points in their undergraduate medical education.

**NBME.org**

The NBME site is a wonderful source for medical students to access latest news about NBME assessments, research, publications, news and other NBME activities.
NBME Licensing Examination Services
USMLE is a three-step examination for medical licensure in the United States and is sponsored by the Federation of State Medical Boards (FSMB) and the NBME.

The USMLE assesses a physician’s ability to apply knowledge, concepts, and principles, and to demonstrate fundamental patient-centered skills, that are important in health and disease and that constitute the basis of safe and effective patient care. Each of the three Steps of the USMLE complements the others; no Step can stand alone in the assessment of readiness for medical licensure.

The high quality of the USMLE program is in large part due to the enormous effort of hundreds of volunteers who serve on USMLE committees. In addition to participation in test material development activities, medical school faculty members and practicing physicians serve on committees charged with item review, content-based standard setting activities, test blueprint construction, form review, overall examination design and policy, and resolution of issues associated with examination security. Select committees developing test materials for the USMLE also provide guidance for staff in the development of the NBME subject examinations. The work of these test committee members in meeting the extraordinary standards of the national licensure examination program exemplifies the medical profession’s tradition of public service.

The USMLE program devotes considerable effort to ensuring that test committee members adequately represent the content areas required for medical practice as well as the realities of clinical practice. As a result, USMLE test committee members constitute a “national faculty” of medicine drawn from medical schools and clinical practice settings across the United States.

STEP 1 EXAMINATION

Step 1 assesses whether you understand and can apply important concepts of the sciences basic to the practice of medicine, with special emphasis on principles and mechanisms underlying health, disease, and modes of therapy. Step 1 ensures mastery of not only the sciences that provide a foundation for the safe and competent practice of medicine in the present, but also the scientific principles required for maintenance of competence through lifelong learning. It is a one-day exam consisting of multiple-choice questions.
**STEP 2 CLINICAL KNOWLEDGE AND CLINICAL SKILLS EXAMINATIONS**

Step 2 assesses your ability of examinees to apply medical knowledge, skills, and understanding of clinical science essential for the provision of patient care under supervision, and includes emphasis on health promotion and disease prevention. Step 2 ensures that due attention is devoted to the principles of clinical sciences and basic patient-centered skills that provide the foundation for the safe and effective practice of medicine.

**Step 2 Clinical Knowledge** (CK) focuses on the principles of clinical science that are deemed important for the practice of medicine under supervision in postgraduate training. It is a one-day exam consisting of multiple-choice questions.

**Step 2 Clinical Skills** (CS) uses standardized patients to test medical students and graduates on their ability to gather information from patients, perform physical examinations, and communicate their findings to patients and colleagues.

**STEP 3 EXAMINATION**

Step 3 assesses whether you can apply medical knowledge and understanding of biomedical and clinical science essential for the unsupervised practice of medicine, with emphasis on patient management in ambulatory settings. It is a two-day exam and includes both multiple-choice questions and Primum computer-based case simulations (CCS), a test format that allows you to provide care for a simulated patient.

**USMLE BULLETIN OF INFORMATION AND RESOURCES TO HELP YOU PREPARE**

If you are preparing to take any of the Step examinations, you should read the *Bulletin of Information*. The Bulletin includes information on all aspects of USMLE, such as eligibility requirements, scheduling test dates, testing, and score reporting. You should review and become familiar with the Bulletin before completing your application for USMLE Step 1, Step 2 (CK and CS), or Step 3.

Please visit the USMLE website ([www.usmle.org](http://www.usmle.org)) to learn about:

- Eligibility for USMLE
- Applications and fees
- Test accommodations
- Orientation and practice materials
- Content descriptions and general information
- Scores and transcripts
- Frequently asked questions
- USMLE announcements
The NBME offers a variety of web-based self-assessments to medical students and graduates. The material presented in the self-assessments is provided by the NBME for educational purposes and is intended to be used as a tool to determine an individual’s relative areas of strength and weakness.

**COMPREHENSIVE SELF-ASSESSMENT**

The comprehensive self-assessments allow you to assess your readiness to take USMLE or help you to become familiar with content and items on USMLE.

The Comprehensive Basic Science self-assessment uses multiple-choice items based on information typically covered during basic science medical education courses and items (i.e., questions) resemble the content of those in Step 1. The Comprehensive Clinical Science self-assessment uses multiple-choice items based on information covered during the core clinical clerkships. The items for this self-assessment resemble content of those in Step 2 CK. The Comprehensive Clinical Medicine self-assessment uses information covered in the clinical encounters. The self-assessment items resemble the content of those in the multiple-choice component of Step 3.

NBME research has demonstrated that under certain circumstances there is a moderate relationship between performance on the self-assessments and the associated Step 1 or Step 2 CK, with some variation in predictive accuracy across test administration conditions.

**CLINICAL SCIENCE MASTERY SERIES**

The self-assessments in the Clinical Science Mastery Series help you gauge your comprehension of the clinical sciences covered during a clerkship or medical education course. They are built to the same content specifications as the NBME clinical science subject examinations. This self-assessment series includes clinical neurology, obstetrics & gynecology, pediatrics, psychiatry and surgery.
The International Foundations of Medicine (IFOM) Clinical Science self-assessment is available if you are preparing to take the IFOM clinical science or anyone wishing to evaluate his or her medical knowledge and understanding of clinical science considered essential internationally for the provision of safe and effective patient care. IFOM Clinical Science self-assessments are available in international English, Spanish, Portuguese and Italian.

PERFORMANCE FEEDBACK

An individual performance profile is provided as standard feedback for most of the self-assessments and it includes diagnostic feedback highlighting areas of strength and weakness by content category along with an interpretation guide with a conversion table that translates the assessment score. An expanded feedback report is available for many of the self-assessments. It provides a breakdown of the number of incorrectly answered items by category and the ability to view those items. Longitudinal performance is provided for self-assessments with diagnostic feedback. When multiple assessments are taken, participants can view their performance progress across content areas.

HELPFUL RESOURCES AVAILABLE ONLINE

For more details about our self-assessments and the performance feedback provided, please read the NBME Self-Assessment Services Program Guide, or visit the self-assessment services website at https://nsas.nbme.org/home to:

- Read the self-assessment services program guide
- Review software and system requirements
- Launch a sample self-assessment
- Download or print sample performance reports
- Review frequently asked questions

https://nsas.nbme.org/home
End-of-Course and End-of-Clerkship Assessments
**Subject Examination Program**

The NBME offers standardized, objective, discipline-based exams for use throughout medical education. [NBME subject exams](#) are designed to provide institutions with effective evaluation tools and useful examinee performance data that can be compared with a large, representative group of examinees at the same stage of training. The exams are provided primarily for use as final exams after courses, clerkships, and other units of instruction. Subject exam scores *cannot* be used for credit toward the examination requirements for medical licensure in the United States.

**EXAMINATION CONTENT AND FORMAT**

Subject exams are achievement tests in a broad sense, requiring medical students to solve scientific and clinical problems. Although your performance will reflect the learning specific to your course and clerkship experiences, your test scores will also reflect educational development resulting from your overall medical school experiences. The exams are constructed to be appropriate for a broad range of curricular approaches.

- The exams are developed and reviewed by committees of content experts following the same rigorous protocol used to build Step 1 and Step 2 Clinical Knowledge (CK) of USMLE.
- Item formats are similar to those used on Step 1 and Step 2 CK.
- Items emphasize application of knowledge or problem solving rather than recall of isolated facts.
- Many items are framed in the context of clinical vignettes.

Below is a current list of available [NBME subject examinations](http://www.nbme.org/Schools/Subject-Exams).

**Basic Sciences**
- Behavioral Sciences
- Biochemistry
- Gross Anatomy and Embryology
- Histology and Cell Biology
- Microbiology
- Neuroscience
- Pathology
- Pharmacology
- Physiology

**Clinical Sciences**
- Adult Ambulatory Medicine
- Adult/Pediatric Ambulatory Medicine
- Clinical Neurology
- Family Medicine
- Family Medicine Modular
- Medicine
- Obstetrics and Gynecology
- Pediatrics
- Psychiatry
- Surgery

[www.nbme.org/Schools/Subject-Exams](http://www.nbme.org/Schools/Subject-Exams)
SECURITY OF EXAMINATIONS

To ensure the integrity of the NBME subject examination program and the validity of the scores reported, it is essential to maintain the security and confidentiality of test materials at all times. If you become aware of a compromise of the security of an NBME subject examination, you should report it to the faculty at your medical school. All items used in the examinations are owned and copyrighted by the NBME. Any unauthorized reproduction or dissemination of test materials through any means is strictly prohibited.

TEST ACCOMMODATIONS

Individuals with disabilities may be entitled to accommodations under federal and state law, including the Americans with Disabilities Act (ADA) and the Rehabilitation Act of 1973. Individuals who wish to request test accommodations for a subject exam on the basis of a disability should follow the process established at your school. Your school will determine whether any accommodations are warranted.

SCORES AND PERFORMANCE FEEDBACK

Scaled scores are the primary score scale for the exams and are statistically equated across administrations to ensure that all scores have the same meaning on different forms of the same exam. Scores are scaled to a reference group of examinees from medical schools that are accredited by the Liaison Committee on Medical Education (LCME) who took the examination for the first time under standard testing conditions. Individual performance profiles are available for many subject examinations. A Score Interpretation Guide is provided with each profile.

Additional Information about the Subject Exam Program Available Online

- Subject Exam Program Guide
- Sample Exam Content Outlines and Sample Items
- Subject Exam Timing Guide
- Sample Score Reports
Customized Assessment Services (CAS)
Web-based Exams Tailored to Local Curricula

The CAS program allows medical school faculty to create an examination tailored to local curriculum from a large, high-quality pool of secure items assembled from the NBME basic science subject exam bank, covering topics commonly taught in basic science coursework. Institutions can design exams for integrated courses, end-of-year evaluations, problem-based learning cases or other educational objectives. Students who take CAS exams gain invaluable exposure to the kinds of items that they will see on USMLE Step 1.

Medical schools must agree to use the customized assessments in compliance with NBME policies and procedures. Moreover, participating institutions understand that NBME customized assessments are intended to complement other sources of information about the educational progress of students.

SCORE REPORTS AND FEEDBACK

NBME customized examinations provide institutions with a tool for measuring a student’s understanding of a series of content areas defined by each institution. Course objectives vary, and customized examinations are targeted to meet the specifics of a given curriculum. The NBME neither sets nor recommends a “passing” score. Generally, customized examinations should be used in conjunction with other indicators of student performance to determine grades.

The NBME generates both total test percent correct scores and locally scaled scores for the total test and individual content areas defined during the test construction phase. For individual examinees, graphical performance profiles are generated which provide feedback on areas of strength and weakness, as well as how well the student performed in relation to his/her peers. Other performance feedback includes summary statistics and item analyses available in three formats: an interactive online version, a PDF document, and a downloadable file. All show item statistics for comparison with a USMLE Step 1 reference group.

A full description and samples of the score report components are available on our website at http://www.nbme.org/schools/cas.html.
The IFOM examinations measure the core knowledge expected internationally of students at critical points in their undergraduate medical education. The IFOM exams carry out the NBME mission to protect the health of the public through state-of-the-art assessments worldwide.

The IFOM program comprises two separate exams: the Clinical Science Examination (CSE) and the Basic Science Examination (BSE). The IFOM CSE tests clinical knowledge that international students should have at a time just prior to receiving the Doctor of Medicine (or equivalent) degree. The CSE is currently available in international English, Spanish, Portuguese and Italian. The CSE covers:

- Family Medicine
- Medicine
- Obstetrics and Gynecology
- Pediatrics
- Psychiatry
- Surgery

The IFOM BSE tests basic science knowledge that international students should have prior to the start of clinical training. The IFOM BSE practice exam is available only in international English. The BSE covers:

- Anatomy
- Biochemistry
- Histology and Cell Biology
- Microbiology
- Organ Systems
- Pathology
- Pharmacology
- Physiology
Individuals (examinees) may find the IFOM useful for participation in exchange programs, applications for post-graduate training programs and professional positions, self-assessment against international standards and becoming familiar with the types of questions that are used on examinations such as USMLE.

Medical schools, post-graduate programs, and ministries of health/education may find IFOM useful for selection of graduates for training, curriculum evaluation, international benchmarking and part of assessment for regional certification.

Individuals can familiarize themselves with the exam format through the online practice exam at no charge, using either timed or untimed test administration conditions.

**SCORES AND PERFORMANCE FEEDBACK**

Examinees receive a detailed profile comparing their performance with that of other examinees on groups of questions about disciplines, physician tasks, and organ systems. The standards of competence noted on these reports approximate passing scores on the USMLE.

However, the IFOM exams are intended to determine an examinee’s relative areas of strength and weakness in general areas of basic and clinical science not to predict performance on the USMLE. The content covered by the IFOM exams and the USMLE is somewhat different. Furthermore, a school or agency may choose to use different standards for high-stakes testing. Thus, the standards of competence are guidelines only.

Medical schools with participating students may elect to receive detailed performance reports comparing the performance of their students with the international comparison group and other groups of interest. By showing how their students are performing, these reports can help schools identify areas of strength and weakness in their curricula.

More information on interpreting your IFOM score and the relationship to the USMLE score scale is available on the NBME site at [http://www.nbme.org/ifom/](http://www.nbme.org/ifom/).
The NBME site is a wonderful source for medical students to access latest news about NBME assessments, research, publications, news and other NBME activities.

**NEWSROOM**

Read up on latest news regarding enhancements or changes to NBME programs and assessment services as well as NBME initiatives.

**NBME ANNUAL REPORT**

Read the NBME annual report for an overview of the NBME organization, including information on its governance, programs and services, publications and presentations, and NBME and USMLE committees.

**NBME EXAMINER**

Read the official newsletter of the National Board about current activities. Its audience includes medical schools, their faculty and students, sister organizations, state medical boards, residency programs, and other health care organizations and professions, such as specialty boards and NBME clients.

**RESEARCH**

Learn more about NBME’s research in the fields of advanced methods of testing, clinical skills assessment, and ongoing studies of the validity and reliability of NBME examination programs.

**REPORT EXAM SECURITY CONCERNS**

It is essential to maintain the security and confidentiality of test materials for the NBME examinations at all times. If you become aware of a compromise of the security of the NBME’s examinations, you should report it to the faculty or a proctor at your medical school. You can also submit a report about a security concern through the NBME website.
If you have any questions about NBME services and resources, contact us at www.nbme.org/contact.