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If I Freak Out and Leave, What Happens to My Exam?

Your scheduling permit shows a CIN that you will need to enter to start your exam. Entering the CIN is the same as breaking the seal on a test book, and you are considered to have started the exam when you do so. However, no result will be reported if you do not complete the exam. If you leave at any time after starting the test, or do not open every block of your test, your test will not be scored and will be reported as incomplete. Incomplete results count toward the maximum of four attempts for each Step exam. Although a pass or fail result is not posted for incomplete tests, examinees may still be offered an option to request that their scores be calculated and reported if they desire; unanswered questions will be scored as incorrect.

The exam ends when all question blocks have been completed or when their time has expired. As you leave the testing center, you will receive a printed test-completion notice to document your completion of the exam. To receive an official score, you must finish the entire exam.

What Types of Questions Are Asked?

All questions on the exam are **one-best-answer multiple choice items**. Most questions consist of a clinical scenario or a direct question followed by a list of four or more options. You are required to select the single best answer among the options given. There are no “except,” “not,” or matching questions on the exam. A number of options may be partially correct, in which case you must select the option that best answers the question or completes the statement. Additionally, keep in mind that certain questions in the exam are experimental, but you won’t know which ones, and they won’t impact your final score.

► Nearly three fourths of Step 1 questions begin with a description of a patient.

TABLE 2. Passing Rates for the 2022-2023 USMLE Step 1.²

	2022		2023	
	No. Tested	% Passing	No. Tested	% Passing
Allopathic 1st takers	22,828	93%	23,100	92%
Repeaters	1,489	71%	2,046	70%
Allopathic total	24,317	91%	25,146	9%
Osteopathic 1st takers	4,659	89%	4,913	87%
Repeaters	63	67%	115	60%
Osteopathic total	4,722	89%	4,913	86%
Total US/Canadian	29,039	91%	30,059	90%
IMG 1st takers	22,030	74%	22,611	72%
Repeaters	2,926	45%	3,530	47%
IMG total	24,956	71%	26,141	68%
Total Step 1 examinees	53,995	82%	56,200	80%

How Is the Test Scored?

The USMLE transitioned to a pass/fail scoring system for Step 1 on January 26, 2022. Examinees now receive an electronic report that will display the outcome of either “Pass” or “Fail.” Failing reports include a graphic depiction of the distance between the examinee’s score and the minimum passing standard as well as content area feedback. Feedback for the content area shows the examinee’s performance relative to examinees with a low pass (lower, same, or higher) and should be used to guide future study plans. Passing exam reports only displays the outcome of “Pass,” along with a breakdown of topics covered on that individual examination (which will closely mirror the frequencies listed in Table 1).

Examinees who took the test before the transition to pass/fail reporting received an electronic report that includes the examinee’s pass/fail status, a three-digit test score, a bar chart comparing the examinee’s performance in each content area with their overall Step 1 performance, and a graphic depiction of the examinee’s performance by physician task, discipline, and organ system. Changes will not be made to transcripts containing three-digit test scores.

The USMLE does not report the minimum number of correct responses needed to pass, but estimates that it is approximately 60%. The USMLE may update exam result reporting in the future, so please check the USMLE website or www.firstaidteam.com for updates.

► Depending on the resource used, practice questions may be easier than the actual exam.

Official NBME/USMLE Resources

The NBME offers a Comprehensive Basic Science Examination (CBSE) for practice that is a shorter version of the Step 1. The CBSE contains four blocks of 50 questions each and covers material that is typically learned during the basic science years. CBSE scores represent the percent of content mastered and show an estimated probability of passing Step 1. Many schools use this test to gauge whether a student is expected to pass Step 1. If this test is offered by your school, it is usually conducted at the end of regular didactic time before any dedicated Step 1 preparation. If you do not encounter the CBSE before your dedicated study time, you need not worry about taking it. Use the information to help set realistic goals and timetables for your success.

The NBME also offers six forms of Comprehensive Basic Science Self-Assessment (CBSSA). Students who prepared for the exam using this web-based tool reported that they found the format and content highly indicative of questions tested on the actual exam. In addition, the CBSSA is a fair predictor of historical USMLE performance. The test interface, however, does not match the actual USMLE test interface, so practicing with these forms alone is not advised.

The CBSSA exists in two formats: standard-paced and self-paced, both of which consist of four sections of 50 questions each (for a total of 200 multiple choice items). The standard-paced format allows the user up to 75 minutes

to complete each section, reflecting time limits similar to the actual exam. By contrast, the self-paced format places a 5-hour time limit on answering all multiple choice questions. Every few years, new forms are released and older ones are retired, reflecting changes in exam content. Therefore, the newer exams tend to be more similar to the actual Step 1, and scores from these exams tend to provide a better estimation of exam day performance.

Keep in mind that this bank of questions is available only on the web. The NBME requires that users start and complete the exam within 90 days of purchase. Once the assessment has begun, users are required to complete the sections within 20 days. Following completion of the questions, the CBSSA provides a performance profile indicating the user's relative strengths and weaknesses, much like the report profile for the USMLE Step 1 exam. In addition to the performance profile, examinees will be informed of the number of questions answered incorrectly. You will have the ability to review the text of all questions with detailed explanations. The NBME charges \$62 for each assessment, payable by credit card or money order. For more information regarding the CBSE and the CBSSA, visit the NBME's website at www.nbme.org.

The NBME scoring system is weighted for each assessment exam. While some exams seem more difficult than others, the equated percent correct reported takes into account these inter-test differences. Also, while many students report seeing Step 1 questions “word-for-word” out of the assessments, the NBME makes special note that no live USMLE questions are shown on any NBME assessment.

Lastly, the International Foundations of Medicine (IFOM) offers a Basic Science Examination (BSE) practice exam at participating Prometric test centers for \$200. Students may also take the self-assessment test online for \$35 through the NBME's website. The IFOM BSE is intended to determine an examinee's relative areas of strength and weakness in general areas of basic science—not to predict performance on the USMLE Step 1 exam—and the content covered by the two examinations is somewhat different. However, because there is substantial overlap in content coverage and many IFOM items were previously used on the USMLE Step 1, it is possible to roughly project IFOM performance onto the historical USMLE Step 1 score scale. More information is available at <http://www.nbme.org/ifom/>.

▶ LEARNING STRATEGIES

Many students feel overwhelmed during the preclinical years and struggle to find an effective learning strategy. Table 3 lists several learning strategies you can try and their estimated effectiveness for Step 1 preparation based on the literature (see References). These are merely suggestions, and it's important to take your learning preferences into account. Your comprehensive learning approach will contain a combination of strategies (eg, elaborative interrogation followed by practice testing, mnemonics review using spaced

repetition, etc). Regardless of your choice, the foundation of knowledge you build during your basic science years is the most important resource for success on the USMLE Step 1.

HIGH EFFICACY

Practice Testing

Also called “retrieval practice,” practice testing has both direct and indirect benefits to the learner.⁴ Effortful retrieval of answers does not only identify weak spots—it directly strengthens long-term retention of material.⁵ The more effortful the recall, the better the long-term retention. This advantage has been shown to result in higher test scores and GPAs.⁶ In fact, research has shown a positive correlation between the number of boards-style practice questions completed and Step 1 performance among medical students.⁷

Practice testing should be done with “interleaving” (mixing of questions from different topics in a single session). Question banks often allow you to intermingle topics. Interleaved practice helps learners develop their ability to

► *The foundation of knowledge you build during your basic science years is the most important resource for success on the USMLE Step 1.*

► *Research has shown a positive correlation between the number of boards-style practice questions completed and Step 1 performance among medical students.*

TABLE 3. Effective Learning Strategies.

Efficacy	Strategy	Example Resources
<i>High efficacy</i>	Practice testing (retrieval practice)	UWorld Qbank NBME Self-Assessments USMLE-Rx QMax Amboss Qbank
	Distributed practice	USMLE-Rx Flash Facts Anki Firecracker Memorang Osmosis
<i>Moderate efficacy</i>	Mnemonics	<i>Pre-made:</i> SketchyMedical Picmonic <i>Self-made:</i> Mullen Memory
	Elaborative interrogation/ self-explanation	
	Concept mapping	Coggle FreeMind XMind MindNode
<i>Low efficacy</i>	Rereading	
	Highlighting/underlining	
	Summarization	

focus on the relevant concept when faced with many possibilities. Practicing topics in massed fashion (eg, all cardiology, then all dermatology) may seem intuitive, but there is strong evidence that interleaving correlates with longer-term retention and increased student achievement, especially on tasks that involve problem solving.⁵

In addition to using question banks, you can test yourself by arranging your notes in a question-answer format (eg, via flash cards). Testing these Q&As in random order allows you to reap the benefit of interleaved practice. Bear in mind that the utility of practice testing comes from the practice of information retrieval, so simply reading through Q&As will attenuate this benefit.

Distributed Practice

Also called “spaced repetition,” distributed practice is the opposite of massed practice or “cramming.” Learners review material at increasingly spaced out intervals (days to weeks to months). Massed learning may produce more short-term gains and satisfaction, but learners who use distributed practice have better mastery and retention over the long term.^{5,9}

Flash cards are a simple way to incorporate both distributed practice and practice testing. Studies have linked spaced repetition learning with flash cards to improved long-term knowledge retention and higher exam scores.^{6,8,10} Apps with automated spaced-repetition software (SRS) for flash cards exist for smartphones and tablets, so the cards are accessible anywhere. Proceed with caution: there is an art to making and reviewing cards. The ease of quickly downloading or creating digital cards can lead to flash card overload (it is unsustainable to make 50 flash cards per lecture!). Even at a modest pace, the thousands upon thousands of cards are too overwhelming for Step 1 preparation. Unless you have specific high-yield cards (and have checked the content with high-yield resources), stick to pre-made cards by reputable sources that curate the vast amount of knowledge for you.

If you prefer pen and paper, consider using a planner or spreadsheet to organize your study material over time. Distributed practice allows for some forgetting of information, and the added effort of recall over time strengthens the learning.

MODERATE EFFICACY

Mnemonics

A “mnemonic” refers to any device that assists memory, such as acronyms, mental imagery (eg, keywords with or without memory palaces), etc. Keyword mnemonics have been shown to produce superior knowledge retention when compared with rote memorization in many scenarios. However, they are generally more effective when applied to memorization-heavy, keyword-friendly topics and may not be broadly suitable.⁵ Keyword mnemonics may not produce long-term retention, so consider combining mnemonics with distributed, retrieval-based practice (eg, via flash cards with SRS).

► Studies have linked spaced repetition learning with flash cards to improved long-term knowledge retention and higher exam scores.

Self-made mnemonics may have an advantage when material is simple and keyword friendly. If you can create your own mnemonic that accurately represents the material, this will be more memorable. When topics are complex and accurate mnemonics are challenging to create, pre-made mnemonics may be more effective, especially if you are inexperienced at creating mnemonics.¹¹

Elaborative Interrogation/Self-Explanation

Elaborative interrogation (“why” questions) and self-explanation (general questioning) prompt learners to generate explanations for facts. When reading passages of discrete facts, consider using these techniques, which have been shown to be more effective than rereading (eg, improved recall and better problem-solving/diagnostic performance).^{5,12,13}

► *Elaborative interrogation and self-explanation prompt learners to generate explanations for facts, which improves recall and problem solving.*

Concept Mapping

Concept mapping is a method for graphically organizing knowledge, with concepts enclosed in boxes and lines drawn between related concepts. Creating or studying concept maps may be more effective than other activities (eg, writing or reading summaries/outlines). However, studies have reached mixed conclusions about its utility, and the small size of this effect raises doubts about its authenticity and pedagogic significance.¹⁴

LOW EFFICACY

Rereading

While the most commonly used method among surveyed students, rereading has not been shown to correlate with grade point average.⁹ Due to its popularity, rereading is often a comparator in studies on learning. Other strategies that we have discussed (eg, practice testing) have been shown to be significantly more effective than rereading.

Highlighting/Underlining

Because this method is passive, it tends to be of minimal value for learning and recall. In fact, lower-performing students are more likely to use these techniques.⁹ Students who highlight and underline do not learn how to actively recall learned information and thus find it difficult to apply knowledge to exam questions.

Summarization

While more useful for improving performance on generative measures (eg, free recall or essays), summarization is less useful for exams that depend on recognition (eg, multiple choice). Findings on the overall efficacy of this method have been mixed.⁵

▶ TIMELINE FOR STUDY**Before Starting**

Your preparation for the USMLE Step 1 should begin when you enter medical school. Organize and commit to studying from the beginning so that when the time comes to prepare for the USMLE, you will be ready with a strong foundation.

▶ *Customize your schedule. Tackle your weakest section first.*

Make a Schedule

After you have defined your goals, map out a study schedule that is consistent with your objectives, your vacation time, the difficulty of your ongoing coursework, and your family and social commitments. Determine whether you want to spread out your study time or concentrate it into 10-hour study days in the final weeks. Then factor in your own history in preparing for standardized examinations (eg, SAT, MCAT). Talk to students at your school who have recently taken Step 1. Ask them for their study schedules, especially those who have study habits and goals similar to yours. Sample schedules can be found at <https://firstyearteam.com/schedules/>.

Typically, US medical schools allot between four and eight weeks for dedicated Step 1 preparation. The time you dedicate to exam preparation will depend on your confidence in comfortably achieving a passing score as well as your success in preparing yourself during the first two years of medical school. Some students reserve about a week at the end of their study period for final review; others save just a few days. When you have scheduled your exam date, do your best to adhere to it.

Make your schedule realistic, and set achievable goals. Many students make the mistake of studying at a level of detail that requires too much time for a comprehensive review—reading *Gray's Anatomy* in a couple of days is not a realistic goal! Have one catch-up day per week of studying. No matter how well you stick to your schedule, unexpected events happen. But don't let yourself procrastinate because you have catch-up days; stick to your schedule as closely as possible and revise it regularly on the basis of your actual progress. Be careful not to lose focus. Beware of feelings of inadequacy when comparing study schedules and progress with your peers. **Avoid others who stress you out.** Focus on a few top-rated resources that suit your learning style—not on some obscure resource your friends may pass down to you. Accept the fact that you cannot learn it all.

▶ *Avoid burnout. Maintain proper diet, exercise, and sleep habits.*

You will need time for uninterrupted and focused study. Plan your personal affairs to minimize crisis situations near the date of the test. Allot an adequate number of breaks in your study schedule to avoid burnout. Maintain a healthy lifestyle with proper diet, exercise, and sleep.

Another important aspect of your preparation is your studying environment. **Study where you have always been comfortable studying.** Be sure to include everything you need close by (review books, notes, coffee, snacks,

etc). If you're the kind of person who cannot study alone, form a study group with other students taking the exam. The main point here is to create a comfortable environment with minimal distractions.

Year(s) Prior

The knowledge you gained during your first two years of medical school and even during your undergraduate years should provide the groundwork on which to base your test preparation. Student scores on NBME subject tests (commonly known as “shelf exams”) have been shown to be highly correlated with subsequent Step 1 performance.¹⁵ Moreover, undergraduate science GPAs as well as MCAT scores are strong predictors of performance on the Step 1 exam.¹⁶

We also recommend that you buy highly rated review books early in your first year of medical school and use them as you study throughout the two years. When Step 1 comes along, these books will be familiar and personalized to the way in which you learn. It is risky and intimidating to use unfamiliar review books in the final two or three weeks preceding the exam. Some students find it helpful to personalize and annotate *First Aid* throughout the curriculum.

Months Prior

Review test dates and the application procedure. Testing for the USMLE Step 1 is done on a year-round basis. If you have disabilities or special circumstances, contact the NBME as early as possible to discuss test accommodations (see the Section I Supplement at www.firstaidteam.com/bonus).

Use this time to finalize your ideal schedule. Consider upcoming breaks and whether you want to relax or study. Work backward from your test date to make sure you finish at least one question bank. Also add time to redo missed or flagged questions (which may be half the bank). This is the time to build a structured plan with enough flexibility for the realities of life.

Begin doing blocks of questions from reputable question banks under “real” conditions. Don't use tutor mode until you're sure you can finish blocks in the allotted time. It is important to continue balancing success in your normal studies with the Step 1 test preparation process.

Weeks Prior (Dedicated Preparation)

Your dedicated prep time may be one week or two months. You should have a working plan as you go into this period. Finish your schoolwork strong, take a day off, and then get to work. Start by simulating a full-length USMLE Step 1 if you haven't yet done so. Consider doing one NBME CBSSA and the free questions from the NBME website. Alternatively, you could choose 7 blocks of randomized questions from a commercial question bank. Make sure you get feedback on your strengths and weaknesses and adjust your studying accordingly. Many students study from review sources or comprehensive

► Buy review resources early (first year) and use while studying for courses.

► Simulate the USMLE Step 1 under “real” conditions before beginning your studies.

- ▶ *In the final two weeks, focus on review, practice questions, and endurance. Stay confident!*

- ▶ *One week before the test:*
 - *Sleep according to the same schedule you'll use on test day*
 - *Review the CBT tutorial one last time*
 - *Call Prometric to confirm test date and time*

programs for part of the day, then do question blocks. Also, keep in mind that reviewing a question block can take upward of two hours. Feedback from CBSSA exams and question banks will help you focus on your weaknesses.

One Week Prior

Make sure you have your CIN (found on your scheduling permit) as well as other items necessary for the day of the examination, including a current driver's license or another form of photo ID with your signature (make sure the name on your **ID exactly** matches that on your scheduling permit). Confirm the Prometric testing center location and test time. Work out how you will get to the testing center and what parking, traffic, and public transportation problems you might encounter. Exchange cell phone numbers with other students taking the test on the same day in case of emergencies. Check www.prometric.com/closures for test site closures due to unforeseen events. Determine what you will do for lunch. Make sure you have everything you need to ensure that you will be comfortable and alert at the test site. It may be beneficial to adjust your schedule to start waking up at the same time that you will on your test day. And of course, make sure to maintain a healthy lifestyle and get enough sleep.

One Day Prior

Try your best to relax and rest the night before the test. Double-check your admissions and test-taking materials as well as the comfort measures discussed earlier so that you will not have to deal with such details on the morning of the exam. At this point it will be more effective to review short-term memory material that you're already familiar with than to try to learn new material. The Rapid Review section at the end of this book is high yield for last-minute studying. Remember that regardless of how hard you have studied, you cannot (and need not!) know everything. There will be things on the exam that you have never even seen before, so do not panic. Do not underestimate your abilities.

Many students report difficulty sleeping the night prior to the exam. This is often exacerbated by going to bed much earlier than usual. Do whatever it takes to ensure a good night's sleep (eg, massage, exercise, warm milk, no screens at night). Do not change your daily routine prior to the exam. Exam day is not the day for a caffeine-withdrawal headache.

Morning of the Exam

On the morning of the Step 1 exam, wake up at your regular time and eat a normal breakfast. If you think it will help you, have a close friend or family member check to make sure you get out of bed. Make sure you have your scheduling permit admission ticket, test-taking materials, and comfort measures as discussed earlier. Wear loose, comfortable clothing. Limiting the number of pockets in your outfit may save time during security screening. Plan for a variable temperature in the testing center. Arrive at the test site 30

- ▶ *No notes, books, calculators, pagers, cell phones, recording devices, or watches of any kind are allowed in the testing area, but they are allowed in lockers and may be accessed during authorized breaks.*