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Preface

With the 34th edition of *First Aid for the USMLE Step 1* we continue our commitment to providing students with the most useful and up-to-date preparation guide for this exam. This edition represents an outstanding revision in many ways, including:

- 22 entirely new or heavily revised high-yield topics reflecting evolving trends in the USMLE Step 1.
- Extensive text revisions, new mnemonics, clarifications, and corrections curated by a team of 16 medical student and resident physician authors who excelled on their Step 1 examinations, and verified by a team of expert faculty advisors and nationally recognized USMLE instructors.
- Updated with 81 new and revised diagrams and illustrations as part of our ongoing collaboration with USMLE-Rx and ScholarRx (MedIQ Learning, LLC).
- Updated with 21 new and revised photos to help visualize various disorders, descriptive findings, and basic science concepts. Additionally, revised imaging photos have been labeled and optimized to show both normal anatomy and pathologic findings.
- Updated exam preparation advice, tailored for the current pass/fail scoring system and Step 1 blueprint changes.
- New advice on how to utilize emerging AI tools to increase studying efficiency.
- Updated photos of patients and pathologies to include a variety of skin colors to better depict real-world presentations.
- Improved organization and integration of text, illustrations, clinical images, and tables throughout for focused review of high-yield topics.
- Revised ratings of current, high-yield review resources, with clear explanations of their relevance to USMLE review. Replaced outdated resources with new ones recommended by Step takers.
- Real-time Step 1 updates and corrections can be found exclusively on our blog, www.firstaidteam.com.

We invite students and faculty to share their thoughts and ideas to help us continually improve *First Aid for the USMLE Step 1* through our blog and collaborative editorial platform. (See How to Contribute, p. xv.)

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We provide special acknowledgment and thanks to the following individuals who made exemplary contributions to this edition through our voting, proofreading, and crowdsourcing platform: Yazmin Allegretti, Athanasios Angistriotis, and Nikitha Crasta.

For support and encouragement throughout the process, we are grateful to Thao Pham, Jinky Flang, and Jonathan Kirsch, Esq. Thanks to Louise Petersen for organizing and supporting the project. Thanks to our publisher, McGraw Hill, for the valuable assistance of its staff, including Bob Boehringer, Jeffrey Herzich, Christina Thomas, Kristian Sanford, and Don Goyette.

We are also very grateful to Dr. Fred Howell and Dr. Robert Cannon of Textensor Ltd for providing us extensive customization and support for their powerful Annotate.co collaborative editing platform (www.annotate.co), which allows us to efficiently manage thousands of contributions. Thanks to Dr. Richard Usatine and Dr. Kristine Krafts for their outstanding image contributions. Thanks also to Jean-Christophe Fournet (www.humpath.com), Dr. Ed Uthman, and Dr. Frank Gaillard (www.radiopaedia.org) for generously allowing us to access some of their striking photographs.

For exceptional editorial leadership, enormous thanks to Megan Chandler. Special thanks to our indexer, Dr. Anne Fifer. We are also grateful to our art manager, Susan Mazik, and illustrators, Stephanie Jones and Rachael Joy, for their creative work on the new and updated illustrations. Lastly, tremendous thanks to our compositor, GW Inc., especially Anne Banning, Gary Clark, Cindy Geiss, Denise Smith, Debra Clark, and Gabby Sullivan.

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General Acknowledgments

Each year we are fortunate to receive the input of thousands of medical students and graduates who provide new material, clarifications, and potential corrections through our website and our collaborative editing platform. This has been a tremendous help in clarifying difficult concepts, correcting errata from the previous edition, and minimizing new errata during the revision of the current edition. This reflects our long-standing vision of a true, student-to-student publication. We have done our best to thank each person individually below, but we recognize that errors and omissions are likely. Therefore, we will post an updated list of acknowledgments at our website, www.firstaidteam.com/bonus/. We will gladly make corrections if they are brought to our attention.

For submitting contributions and corrections, many thanks to Ehsen Abdul-Kabir, Suleiman Jamal Abou Ramadan, Ghaith Abu-Hassan, Raghed Abu Jabeih, Ruby Abu-Nassar, Suhaib Abusara, Rochana Acharya, Biplov Adhikari, Sumera Afzal-Tohid, Marium Aisha, Wahid Alowein, Sajjad Altmimi, Mohammad Arabi, Laila Ashkar, Nabil Askar, Emily Babcock, Abdulrahman Bani-Yassin, Angelina Bania, Gabriella Barr, Shreya Bavishi, Heather Beyea, Karun Bhattarai, Pratik Bhattarai, Suzit Bhusal, Iuliia Bozhina, Stephanie Brown, Nicholas Buehler, Jack Carey, Paola Del Cueto, Amy Cunningham, Suyash Dawadi, Molly Dexter, Jeevan Divakaran, Manasa Dutta, Prabin Duwadee, Gian Ferrando, Talia Fradkin, Louna Ftouni, Aaron Goldman-Henley, Priyanka Goswami, Jackson Green, Ishan Gupta, Fariah Asha Haque Haque, Mariam Hassan, Shelly Colleen Heredia, Hung Ho, Rachel Holmes, Kaitlyn Hoyt, Samkit Jain, Subhah Jalil, Abdelrhman Muwafaq Jenem, Julia Katcher, Avneet Kaur, Nadim Khutaba, Sourabh Kumar, Nery y Mara Lamothe, Guilherme Leite, Anna Marmalidou, Tanya Mateo, Juliana Maya, Nathan McDermott, Jose Antonio Meade, Shivani Mehta, Muhammad Mikaeel, Dylan Mittauer, Andrew Mohama, Gamble Morrison, Andrew Moya, Alexandra Jan Mrani, Wameza Mughees, Ziad Nabil, Ezra Nadler, Shamsun Nahar, Sajjad Nazar Majeed, Antony Nemr, Hyder Nizaman, Sophie O'Hare, Charis Osiadi, Fahreddin Palaz, Sharon Pan, Archana Pandey, Abigail Poe, Emily Pompeo, Zoe Pujadas, Yochitha Pulipati, Nicholas Purvis, Denise Qyqja, Parul Rai, Yoshita Rao, Liran Raz, Eva Rest, Carol Sánchez Jiménez, Ridha Saad, Luke Schroeder, Sirous Seifirad, Muhammad Shahzaib, Amir Hossein Shams, Naimatullah Sharif, Ajay Ajit Pal Singh, Ramzi Skaik, Swati Srivastava, Zargham Abbas Syed, Miranda Teixeira, Grayson Tishko, Hirak Trivedi, Ana Tsiklauri, Luis Vilatuna, Amanjot Virk, Stefani Wren, Richard Wu, and Hsinyu Yin.

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How to Contribute

This edition of *First Aid for the USMLE Step 1* incorporates thousands of contributions and improvements suggested by student and faculty advisors. We invite you to participate in this process. Please send us your suggestions for:

- Study and test-taking strategies for the USMLE Step 1
- New facts, mnemonics, diagrams, and clinical images
- High-yield topics that may appear on future Step 1 exams
- Personal ratings and comments on review books, question banks, apps, videos, and courses
- Pathology and radiology images (high resolution) relevant to the facts in the book

For each new entry incorporated into the next edition, you will receive **up to a \$20 Amazon.com gift card** as well as personal acknowledgment in the next edition. Significant contributions will be compensated at the discretion of the authors. Also, let us know about material in this edition that you feel is low yield and should be deleted.

All submissions including potential errata should ideally be supported with hyperlinks to a dynamically updated Web resource such as UpToDate, AccessMedicine, and ClinicalKey.

We welcome potential errata on grammar and style if the change improves readability. Please note that *First Aid* style is somewhat unique; for example, we have fully adopted the *AMA Manual of Style* recommendations on eponyms (“We recommend that the possessive form be omitted in eponymous terms”) and on abbreviations (no periods with eg, ie, etc). We also avoid periods in tables unless required for full sentences. Kindly refrain from submitting “style errata” unless you find specific inconsistencies with the *AMA Manual of Style*.

The preferred way to submit new entries, clarifications, mnemonics, or potential corrections with a valid, authoritative reference is via our website: **www.firstaidteam.com**.

This website will be continuously updated with validated errata, new high-yield content, and a new online platform to contribute suggestions, mnemonics, diagrams, clinical images, and potential errata.

Alternatively, you can email us at: **firstaid@scholarrx.com**.

Contributions submitted by **May 15, 2024**, receive priority consideration for the 2025 edition of *First Aid for the USMLE Step 1*. We thank you for taking the time to share your experience and apologize in advance that we cannot individually respond to all contributors as we receive thousands of contributions each year.

▶ NOTE TO CONTRIBUTORS

All contributions become property of the authors and are subject to editing and reviewing. Please verify all data and spellings carefully. Contributions should be supported by at least two high-quality references.

Check our website first to avoid duplicate submissions. In the event that similar or duplicate entries are received, only the first complete entry received with valid, authoritative references will be credited. Please follow the style, punctuation, and format of this edition as much as possible.

▶ JOIN THE FIRST AID TEAM

The *First Aid/ScholarRx* team is pleased to offer paid editorial and coaching positions. We are looking for passionate, experienced, and dedicated medical students and recent graduates. Participants will have an opportunity to work on a wide variety of projects, including the popular *First Aid* series and the growing line of USMLE-Rx/ScholarRx products, including Rx Bricks. Please use our webform at <https://www.usmle-rx.com/join-the-first-aid-team/> to apply, and include a CV and writing examples.

For 2024, we are actively seeking passionate medical students and graduates with a specific interest in improving our medical illustrations, expanding our database of photographs (including clinical images depicting diverse skin types), and developing the software that supports our crowdsourcing platform. We welcome people with prior experience and talent in these areas. Relevant skills include clinical imaging, digital photography, digital asset management, information design, medical illustration, graphic design, tutoring, and software development.

How to Use This Book

CONGRATULATIONS: You now possess the book that has guided nearly two million students to USMLE success for over 30 years. With appropriate care, the binding should last the useful life of the book. Keep in mind that putting excessive flattening pressure on any binding will accelerate its failure. If you purchased a book that you believe is defective, please **immediately** return it to the place of purchase. If you encounter ongoing issues, you can also contact Customer Service at our publisher, McGraw Hill.

START EARLY: Use this book as early as possible while learning the basic medical sciences. The first semester of your first year is not too early! Devise a study plan by reading Section I: Guide to Efficient Exam Preparation, and make an early decision on resources to use by checking Section IV: Top-Rated Review Resources. Note that *First Aid* is neither a textbook nor a comprehensive review book, and it is not a panacea for inadequate preparation.

CONSIDER FIRST AID YOUR ANNOTATION HUB: Annotate this book with material from other resources, such as class notes or comprehensive textbooks. This will keep all the high-yield information you need in one place. Other tips on keeping yourself organized:

- For best results, use fine-tipped ballpoint pens (eg, BIC Pro+, Uni-Ball Jetstream Sports, Pilot Drawing Pen, Zebra F-301). If you like gel pens, try Pentel Slicci, and for markers that dry almost immediately, consider Staedtler Triplus Fineliner, Pilot Drawing Pen, and Sharpies.
- Consider using pens with different colors of ink to indicate different sources of information (eg, blue for USMLE-Rx Step 1 Qmax, green for UWorld Step 1 Qbank, red for Rx Bricks).
- Choose highlighters that are bright and dry quickly to minimize smudging and bleeding through the page (eg, Tombow Kei Coat, Sharpie Gel).
- Many students de-spine their book and get it 3-hole-punched. This will allow you to insert materials from other sources, including curricular materials.

INTEGRATE STUDY WITH CASES, FLASH CARDS, AND QUESTIONS: To broaden your learning strategy, consider integrating your *First Aid* study with case-based reviews (eg, *First Aid Cases for the USMLE Step 1*), flash cards (eg, USMLE-Rx Step 1 Flash Facts), and practice questions (eg, the USMLE-Rx Step 1 Qmax). Read the chapter in the book, then test your comprehension by using cases, flash cards, and questions that cover the same topics. Maintain access to more comprehensive resources (eg, ScholarRx Bricks and USMLE-Rx Step 1 Express videos) for deeper review as needed.

PRIME YOUR MEMORY: Return to your annotated Sections II and III several days before taking the USMLE Step 1. The book can serve as a useful way of retaining key associations and keeping high-yield facts fresh in your memory just prior to the exam. The Rapid Review section includes high-yield topics to help guide your studying.

CONTRIBUTE TO FIRST AID: Reviewing the book immediately after your exam can help us improve the next edition. Decide what was truly high and low yield and send us your comments. Feel free to send us scanned images from your annotated *First Aid* book as additional support. Of course, always remember that **all examinees are under agreement with the NBME to not disclose the specific details of copyrighted test material.**

Selected USMLE Laboratory Values

* = Included in the Biochemical Profile (SMA-12)

Blood, Plasma, Serum	Reference Range	SI Reference Intervals
* Alanine aminotransferase (ALT, GPT at 30°C)	10–40 U/L	10–40 U/L
* Alkaline phosphatase	25–100 U/L	25–100 U/L
Amylase, serum	25–125 U/L	25–125 U/L
* Aspartate aminotransferase (AST, GOT at 30°C)	12–38 U/L	12–38 U/L
Bilirubin, serum (adult)		
Total // Direct	0.1–1.0 mg/dL // 0.0–0.3 mg/dL	2–17 μmol/L // 0–5 μmol/L
* Calcium, serum (Total)	8.4–10.2 mg/dL	2.1–2.6 mmol/L
* Cholesterol, serum (Total)	Rec: < 200 mg/dL	< 5.2 mmol/L
* Creatinine, serum (Total)	0.6–1.2 mg/dL	53–106 μmol/L
Electrolytes, serum		
Sodium (Na ⁺)	136–146 mEq/L	136–146 mmol/L
Chloride (Cl ⁻)	95–105 mEq/L	95–105 mmol/L
* Potassium (K ⁺)	3.5–5.0 mEq/L	3.5–5.0 mmol/L
Bicarbonate (HCO ₃ ⁻)	22–28 mEq/L	22–28 mmol/L
Magnesium (Mg ²⁺)	1.5–2 mEq/L	0.75–1.0 mmol/L
Gases, arterial blood (room air)		
P _{O₂}	75–105 mm Hg	10.0–14.0 kPa
P _{CO₂}	33–45 mm Hg	4.4–5.9 kPa
pH	7.35–7.45	[H ⁺] 36–44 nmol/L
* Glucose, serum	Fasting: 70–100 mg/dL	3.8–6.1 mmol/L
Growth hormone – arginine stimulation	Fasting: < 5 ng/mL Provocative stimuli: > 7 ng/mL	< 5 μg/L > 7 μg/L
Osmolality, serum	275–295 mOsmol/kg H ₂ O	275–295 mOsmol/kg H ₂ O
* Phosphorus (inorganic), serum	3.0–4.5 mg/dL	1.0–1.5 mmol/L
Prolactin, serum (hPRL)	Male: < 17 ng/mL Female: < 25 ng/mL	< 17 μg/L < 25 μg/L
* Proteins, serum		
Total (recumbent)	6.0–7.8 g/dL	60–78 g/L
Albumin	3.5–5.5 g/dL	35–55 g/L
Globulins	2.3–3.5 g/dL	23–35 g/L
Thyroid-stimulating hormone, serum or plasma	0.4–4.0 μU/mL	0.4–4.0 mIU/L
* Urea nitrogen, serum (BUN)	7–18 mg/dL	25–64 nmol/L
* Uric acid, serum	3.0–8.2 mg/dL	0.18–0.48 mmol/L

(continues)

Cerebrospinal Fluid	Reference Range	SI Reference Intervals
Cell count	0–5/mm ³	0–5 × 10 ⁶ /L
Glucose	40–70 mg/dL	2.2–3.9 mmol/L
Proteins, total	< 40 mg/dL	< 0.40 g/L
Hematologic		
Erythrocyte count	Male: 4.3–5.9 million/mm ³ Female: 3.5–5.5 million/mm ³	4.3–5.9 × 10 ¹² /L 3.5–5.5 × 10 ¹² /L
Erythrocyte sedimentation rate (Westergen)	Male: 0–15 mm/hr Female: 0–20 mm/hr	0–15 mm/hr 0–20 mm/hr
Hematocrit	Male: 41–53% Female: 36–46%	0.41–0.53 0.36–0.46
Hemoglobin, blood	Male: 13.5–17.5 g/dL Female: 12.0–16.0 g/dL	135–175 g/L 120–160 g/L
Hemoglobin, plasma	< 4 mg/dL	< 0.62 μmol/L
Leukocyte count and differential		
Leukocyte count	4,500–11,000/mm ³	4.5–11.0 × 10 ⁹ /L
Segmented neutrophils	54–62%	0.54–0.62
Band forms	3–5%	0.03–0.05
Eosinophils	1–3%	0.01–0.03
Basophils	0–0.75%	0–0.0075
Lymphocytes	25–33%	0.25–0.33
Monocytes	2–7%	0.03–0.07
Mean corpuscular hemoglobin	27–35 g/cell	0.39–0.54 fmol/cell
Mean corpuscular hemoglobin concentration	31%–36% Hb/cell	4.8–5.6 mmol Hb/L
Mean corpuscular volume	80–100 μm ³	80–100 fL
Partial thromboplastin time (activated)	25–40 sec	25–40 sec
Platelet count	150,000–400,000/mm ³	150–400 × 10 ⁹ /L
Prothrombin time	11–15 sec	11–15 sec
Reticulocyte count	0.5–1.5% of RBC	0.005–0.015
Urine		
Creatinine clearance	Male: 97–137 mL/min Female: 88–128 mL/min	97–137 mL/min 88–128 mL/min
Osmolality	50–1200 mOsmol/kg H ₂ O	50–1200 mOsmol/kg H ₂ O
Proteins, total	< 150 mg/24 hr	< 0.15 g/24 hr
Other		
Body mass index	Adult: 19–25 kg/m ²	19–25 kg/m ²

First Aid Checklist for the USMLE Step 1

This is an example of how you might use the information in Section I to prepare for the USMLE Step 1. Refer to corresponding topics in Section I for more details.

- Years Prior**
 - Use top-rated review resources for first-year medical school courses.
 - Ask for advice from those who have recently taken the USMLE Step 1.
- Months Prior**
 - Review computer test format and registration information.
 - Register six months in advance.
 - Carefully verify name and address printed on scheduling permit. Make sure the name on scheduling permit matches the name printed on your photo ID.
 - Go online to register ASAP.
 - Set up a realistic timeline for study. Cover less crammable subjects first.
 - Evaluate and choose study materials (review books, question banks).
 - Use a question bank to simulate the USMLE Step 1 to pinpoint strengths and weaknesses in knowledge and test-taking skills from early on.
- Weeks Prior**
 - Do test simulations in question banks.
 - Assess how close you are to your goal.
 - Pinpoint remaining weaknesses. Stay healthy (eg, exercise, sleep).
 - Verify information on admission ticket (eg, location, date).
- One Week Prior**
 - Remember comfort measures (eg, loose clothing, earplugs).
 - Work out test site logistics (eg, location, transportation, parking, lunch).
 - Print or download your Scheduling Permit and Scheduling Confirmation to your phone.
- One Day Prior**
 - Relax.
 - Lightly review short-term material if necessary. Skim high-yield facts.
 - Get a good night's sleep.
- Day of Exam**
 - Relax.
 - Eat breakfast.
 - Minimize bathroom breaks during exam by avoiding excessive morning caffeine.
- After Exam**
 - Celebrate, regardless of how well you feel you did.
 - Send feedback to us on our website at www.firstaidteam.com or at firstaid@scholarrx.com.

SECTION I

Guide to Efficient Exam Preparation

“One important key to success is self-confidence. An important key to self-confidence is preparation.”

—Arthur Ashe

“Wisdom is not a product of schooling but of the lifelong attempt to acquire it.”

—Albert Einstein

“Finally, from so little sleeping and so much reading, his brain dried up and he went completely out of his mind.”

—Miguel de Cervantes Saavedra, *Don Quixote*

“Sometimes the questions are complicated and the answers are simple.”

—Dr. Seuss

“He who knows all the answers has not been asked all the questions.”

—Confucius

“The expert in anything was once a beginner.”

—Herbert Hayes

“It always seems impossible until it’s done.”

—Nelson Mandela

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▶ INTRODUCTION

Relax.

This section is intended to make your exam preparation easier, not harder. Our goal is to reduce your level of anxiety and help you make the most of your efforts by helping you understand more about the United States Medical Licensing Examination, Step 1 (USMLE Step 1). As a medical student, you are no doubt familiar with taking standardized examinations and quickly absorbing large amounts of material. When you first confront the USMLE Step 1, however, you may find it all too easy to become sidetracked from your goal of studying with maximal effectiveness. Common mistakes that students make when studying for Step 1 include the following:

- Starting to study (including *First Aid*) too late
 - Starting to study intensely too early and burning out
 - Starting to prepare for boards before creating a knowledge foundation
- Using inefficient or inappropriate study methods
- Buying the wrong resources or buying too many resources
- Buying only one publisher's review series for all subjects
- Not using practice examinations to maximum benefit
- Not understanding how scoring is performed or what the result means
- Not using review books along with your classes
- Not analyzing and improving your test-taking strategies
- Getting bogged down by reviewing difficult topics excessively
- Studying material that is rarely tested on the USMLE Step 1
- Failing to master certain high-yield subjects owing to overconfidence
- Using *First Aid* as your sole study resource
- Trying to prepare for it all alone

In this section, we offer advice to help you avoid these pitfalls and be more productive in your studies.

▶ USMLE STEP 1—THE BASICS

▶ *The test at a glance:*

- 8-hour exam
- Up to a total of 280 multiple choice items
- 7 test blocks (60 min/block)
- Up to 40 test items per block
- 45 minutes of break time, plus another 15 if you skip the tutorial

The USMLE Step 1 is the first of three examinations that you would normally pass in order to become a licensed physician in the United States. The USMLE is a joint endeavor of the National Board of Medical Examiners (NBME) and the Federation of State Medical Boards (FSMB). The USMLE serves as the single examination system domestically and internationally for those seeking medical licensure in the United States.

The Step 1 exam includes test items that can be grouped by the organizational constructs outlined in Table 1 (in order of tested frequency). In late 2020, the USMLE increased the number of items assessing communication skills. While pharmacology is still tested, they are focusing on drug mechanisms rather than on pharmacotherapy. You will not be required to identify the specific medications indicated for a specific condition. Instead, you will be asked more about drug mechanisms and side effects.

TABLE 1. Frequency of Various Constructs Tested on the USMLE Step 1.^{1,*}

Competency	Range, %	System	Range, %
Medical knowledge: applying foundational science concepts	60–70	General principles	12–16
Patient care: diagnosis	20–25	Behavioral health & nervous systems/special senses	9–13
Communication and interpersonal skills	6–9	Respiratory & renal/urinary systems	9–13
Practice-based learning & improvement	4–6	Reproductive & endocrine systems	9–13
Discipline	Range, %	Blood & lymphoreticular/immune systems	7–11
Pathology	44–52	Multisystem processes & disorders	6–10
Physiology	25–35	Musculoskeletal, skin & subcutaneous tissue	6–10
Pharmacology	15–22	Cardiovascular system	5–9
Biochemistry & nutrition	14–24	Gastrointestinal system	5–9
Microbiology	10–15	Biostatistics & epidemiology/population health	4–6
Immunology	6–11	Social sciences: communication skills/ethics	6–9
Gross anatomy & embryology	11–15		
Histology & cell biology	8–13		
Behavioral sciences	8–13		
Genetics	—9		

*Percentages are subject to change at any time. www.usmle.org

How Is the Computer-Based Test (CBT) Structured?

The CBT Step 1 exam consists of one “optional” tutorial/simulation block and seven “real” question blocks of up to 40 questions per block with no more than 280 questions in total, timed at 60 minutes per block. A short 11-question survey follows the last question block. The computer begins the survey with a prompt to proceed to the next block of questions.

Once an examinee finishes a particular question block on the CBT, he or she must click on a screen icon to continue to the next block. Examinees **cannot** go back and change their answers to questions from any previously completed block. However, changing answers is allowed **within** a block of questions as long as the block has not been ended and if time permits.

What Is the CBT Like?

Given the unique environment of the CBT, it's important that you become familiar ahead of time with what your test-day conditions will be like. You can access a 15-minute tutorial and practice blocks at <http://orientation.nbme.org/Launch/USMLE/STPF1>. This tutorial interface is the same as the one you will use in the exam; learn it now and you can skip taking it during the exam, giving you up to 15 extra minutes of break time. You can gain experience with the CBT format by taking the 120 practice questions (3 blocks with 40 questions each) available online for free (<https://www.usmle.org/prepare-your-exam>) or by signing up for a practice session at a test center for a fee.

For security reasons, examinees are not allowed to bring any personal electronic equipment into the testing area. This includes both digital and analog watches, cell phones, tablets, and calculators. Examinees are also prohibited from carrying in their books, notes, pens/pencils, and scratch paper (laminated note boards and fine-tip dry erase pens will be provided for use within the testing area). Food and beverages are also prohibited in the testing area. The testing centers are monitored by audio and video surveillance equipment. However, most testing centers allot each examinee a small locker outside the testing area in which he or she can store snacks, beverages, and personal items.

▶ **Keyboard shortcuts:**

- A, B, etc.—letter choices
- Esc—exit pop-up Calculator and Notes windows

- ▶ *Heart sounds are tested via media questions. Make sure you know how different heart diseases sound on auscultation.*

- ▶ *Be sure to test your headphones during the tutorial.*

- ▶ *Familiarize yourself with the commonly tested lab values (eg, Hb, WBC, Ca^{2+} , Na^+ , K^+).*

▶ **Illustrations on the test include:**

- Gross specimen photos
- Histology slides
- Medical imaging (eg, x-ray, CT, MRI)
- Electron micrographs
- Line drawings

Questions are typically presented in multiple choice format, with 4 or more possible answer options. There is a countdown timer on the lower left corner of the screen as well. There is also a button that allows the examinee to mark a question for review. If a given question happens to be longer than the screen, a scroll bar will appear on the right, allowing the examinee to see the rest of the question. Regardless of whether the examinee clicks on an answer choice or leaves it blank, he or she must click the “Next” button to advance to the next question.

The USMLE features a small number of media clips in the form of audio and/or video. There may even be a question with a multimedia heart sound simulation. In these questions, a digital image of a torso appears on the screen, and the examinee directs a digital stethoscope to various auscultation points to listen for heart and breath sounds. The USMLE orientation materials include several practice questions in these formats. During the exam tutorial, examinees are given an opportunity to ensure that both the audio headphones and the volume are functioning properly. If you are already familiar with the tutorial and planning on skipping it, first skip ahead to the section where you can test your headphones. After you are sure the headphones are working properly, proceed to the exam.

The examinee can call up a window displaying normal laboratory values. In order to do so, he or she must click the “Lab” icon on the top part of the screen. Afterward, the examinee will have the option to choose between “Blood,” “Cerebrospinal,” “Hematologic,” or “Sweat and Urine.” The normal values screen may obscure the question if it is expanded. The examinee may have to scroll down to search for the needed lab values. You might want to memorize some common lab values so you spend less time on questions that require you to analyze these.

The CBT interface provides a running list of questions on the left part of the screen at all times. The software also permits examinees to highlight or cross out information by using their mouse. There is a “Notes” icon on the top part of the screen that allows students to write notes to themselves for review at a later time. Finally, the USMLE has recently added new functionality including text magnification and reverse color (white text on black background). Being familiar with these features can save time and may help you better view and organize the information you need to answer a question.

For those who feel they might benefit, the USMLE offers an opportunity to take a simulated test, or “CBT Practice Session” at a Prometric center. Students are eligible to register for this three-and-one-half-hour practice session after they have received their scheduling permit.

The same USMLE Step 1 sample test items (120 questions) available on the USMLE website are used at these sessions. **No new items will be presented.** The practice session is available at a cost of \$75 (\$155 if taken outside of the US and Canada) and is divided into a short tutorial and three 1-hour blocks of ~40 test items each. Students receive a printed percent-correct score after completing the session. **No explanations of questions are provided.**

You may register for a practice session online at www.usmle.org. A separate scheduling permit is issued for the practice session. Students should allow two weeks for receipt of this permit.

How Do I Register to Take the Exam?

Prometric test centers offer Step 1 on a year-round basis, except for the first two weeks in January and major holidays. Check with the test center you want to use before making your exam plans.

US students can apply to take Step 1 at the NBME website. This application allows you to select one of 12 overlapping three-month blocks in which to be tested (eg, April–May–June, June–July–August). Choose your three-month eligibility period wisely. If you need to reschedule outside your initial three-month period, you can request a one-time extension of eligibility for the next contiguous three-month period, and pay a rescheduling fee. The application also includes a photo ID form that must be certified by an official at your medical school to verify your enrollment. After the NBME processes your application, it will send you a scheduling permit.

The scheduling permit you receive from the NBME will contain your USMLE identification number, the eligibility period in which you may take the exam and two additional numbers. The first of these is known as your “scheduling number.” You must have this number in order to make your exam appointment with Prometric. The second number is known as the “candidate identification number,” or CIN. Examinees must enter their CINs at the Prometric workstation in order to access their exams. However, you will not be allowed to bring your permit into the exam and will be asked to copy your CIN onto your scratch paper. Prometric has no access to the codes. **Make sure to bring a paper or electronic copy of your permit with you to the exam!** Also bring an unexpired, government-issued photo ID that includes your signature (such as a driver’s license or passport). Make sure the name on your photo ID exactly matches the name that appears on your scheduling permit.

Once you receive your scheduling permit, you may access the Prometric website or call Prometric’s toll-free number to arrange a time to take the

▶ You can take a shortened CBT practice test at a Prometric center.

▶ The Prometric website will display a calendar with open test dates.

▶ Be familiar with Prometric’s policies for cancellation and rescheduling due to COVID-19.

exam. You may contact Prometric two weeks before the test date if you want to confirm identification requirements. Be aware that your exam may be canceled because of circumstances related to COVID-19 or other unforeseen events. If that were to happen, you should receive an email from Prometric containing notice of the cancellation and instructions on rescheduling.

▶ *Test scheduling is done on a “first-come, first-served” basis. It’s important to schedule an exam date as soon as you receive your scheduling permit.*

Although requests for taking the exam may be completed more than six months before the test date, examinees will not receive their scheduling permits earlier than six months before the eligibility period. The eligibility period is the three-month period you have chosen to take the exam. Most US medical students attending a school which uses the two-year preclerkship curriculum choose the April–June or June–August period. Most US medical students attending a school which uses the 18-month preclerkship curriculum choose the December–February or January–March period.

What If I Need to Reschedule the Exam?

You can change your test date and/or center by contacting Prometric at 1-800-MED-EXAM (1-800-633-3926) or www.prometric.com. Make sure to have your ID when rescheduling. If you are rescheduling by phone, you must speak with a Prometric representative; leaving a voicemail message will not suffice. To avoid a rescheduling fee, you will need to request a change at least 31 calendar days before your appointment. Please note that your rescheduled test date must fall within your assigned three-month eligibility period.

▶ *Register six months in advance for seating and scheduling preference.*

When Should I Register for the Exam?

You should plan to register as far in advance as possible ahead of your desired test date (eg, six months), but, depending on your particular test center, new dates and times may open closer to the date. Scheduling early will guarantee that you will get either your test center of choice or one within a 50-mile radius of your first choice. For most US medical students, the desired testing window correlates with the end of the preclerkship curriculum, which is around June for schools on a two-year preclerkship schedule, and around January for schools on an 18-month schedule. Thus US medical students should plan to register before January in anticipation of a June test date, or before August in anticipation of a January test date. The timing of the exam is more flexible for IMGs, as it is related only to when they finish exam preparation. Talk with upperclassmen who have already taken the test so you have real-life experience from students who went through a similar curriculum, then formulate your own strategy.

Where Can I Take the Exam?

Your testing location is arranged with Prometric when you book your test date (after you receive your scheduling permit). For a list of Prometric locations nearest you, visit www.prometric.com.

How Long Will I Have to Wait Before I Get My Result?

The USMLE reports results in three to four weeks, unless there are delays in processing. Examinees will be notified via email when their results are available. By following the online instructions, examinees will be able to view, download, and print their exam report online for ~120 days after notification, after which results can only be obtained through requesting an official USMLE transcript. Additional information about results reporting timetables and accessibility is available on the official USMLE website. Between 2021 and 2022, Step 1 pass rates dropped from 95% to 91% across US/Canadian schools and from 77% to 71% across non-US/Canadian schools (see Table 2), following the transition to pass/fail scoring in January 2022.

► *Step 1 pass rates dropped significantly amongst both US/Canadian students and IMGs in 2022.*

What About Time?

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

15 minutes	Tutorial (skip if familiar with test format and features)
7 hours	Seven 60-minute question blocks
45 minutes	Break time (includes time for lunch)

► *Gain extra break time by skipping the tutorial, or utilize the tutorial time to add personal notes to your scratch paper.*

The computer will keep track of how much time has elapsed on the exam. However, the computer will show you only how much time you have remaining in a given block. Therefore, it is up to you to determine if you are pacing yourself properly (at a rate of approximately one question per 90 seconds).

The computer does not warn you if you are spending more than your allotted time for a break. You should therefore budget your time so that you can take a short break when you need one and have time to eat. You must be especially careful not to spend too much time in between blocks (you should keep track of how much time elapses from the time you finish a block of questions to the time you start the next block). After you finish one question block, you will need to click to proceed to the next block of questions. If you do not click within 30 seconds, you will automatically be entered into a break period.

Break time for the day is 45 minutes, but you are not required to use all of it, nor are you required to use any of it. You can gain extra break time (but not extra time for the question blocks) by skipping the tutorial or by finishing a block ahead of the allotted time. Any time remaining on the clock when you finish a block gets added to your remaining break time. Once a new question block has been started, you may not take a break until you have reached the end of that block. If you do so, this will be recorded as an “unauthorized break” and will be reported on your final exam report.

► *Be careful to watch the clock on your break time.*

Finally, be aware that it may take a few minutes of your break time to “check out” of the secure resting room and then “check in” again to resume testing, so plan accordingly. The “check-in” process may include fingerprints, pocket checks, and metal detector scanning. Some students recommend pocketless clothing on exam day to streamline the process.

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 experimental questions may appear on the exam, which do not affect your exam result.

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

TABLE 2. Passing Rates for the 2021-2022 USMLE Step 1.²

	2021		2022	
	No. Tested	% Passing	No. Tested	% Passing
Allopathic 1st takers	22,280	96%	22,828	93%
Repeaters	798	66%	1,489	71%
Allopathic total	23,078	95%	24,317	91%
Osteopathic 1st takers	5,309	94%	4,659	89%
Repeaters	56	75%	63	67%
Osteopathic total	5,365	94%	4,722	89%
Total US/Canadian	28,443	95%	29,039	91%
IMG 1st takers	16,952	82%	22,030	74%
Repeaters	2,258	45%	2,926	45%
IMG total	19,210	77%	24,956	71%
Total Step 1 examinees	47,653	87%	53,881	82%

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). Note that a number of questions are experimental and are not counted toward or against the examinee’s performance.

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 \$60 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-Px 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 20 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.