



## BOARD REVIEW PROGRAM

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## MARSHALL UNIVERSITY'S USMLE PROGRAM OVERVIEW

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### STRIVING TO REACH YOUR GOALS – WE ARE WITH YOU

Marshall University Joan C. Edwards School of Medicine (JCESOM) is committed to your medical education. We have prepared a four year medical school curriculum with the primary goal of training you to become a capable, confident and compassionate physician. As a measure of this success you are required to pass four national licensing exams known as the United States Medical Licensing Examination (USMLE) I, II CK, II CS, and III. It is our goal to fully prepare you for the USMLE exams as your progress through your medical school curriculum. This guidebook will assist you in learning about the exams and the opportunities available to you at JCESOM.

### OVERVIEW OF THE USMLE

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There are three USMLE exams that are used to gauge a physician's ability to apply a broad field of knowledge, concepts, and principles as well as the ability to interact with, examine and develop a differential diagnosis for standardized patients.

- ❖ Step 1 – A one day, approximately 350 multiple-choice question exam, taken the summer between your second and third years of medical school that tests how well you understand and can apply the basic and clinical sciences learned in your first two years of medical school.
- ❖ Step 2 – Two separate examinations taken your fourth year of medical school
  - Step 2 Clinical Knowledge – A one-day, approximately 370 multiple-choice question exam designed to determine whether you possess the medical knowledge and understanding of your clinical sciences that are deemed necessary for the application of patient care under supervision.
  - Step 2 Clinical Skills – A one day “hands-on” examination that tests your clinical and communication skills through your ability to gather information from a standardized patient, perform a physical exam, communicate your findings, and write a patient note.
- ❖ Step 3 – A two day, approximately 490 multiple-choice question exam with separate case simulation section that assesses your skills in applying your medical knowledge and your understanding of biomedical and clinical science that is necessary for the unsupervised practice of medicine with emphasis on patient management during ambulatory settings.

# USMLE STEP 1

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## INTRODUCTION

The Step 1 exam consists of **seven 60 minute blocks of 50 questions** each for a total of **350 questions**. (There is also an eighth block, an eleven-question survey.)

*All 350 questions are multiple choice, usually with five answer choices, although three to eleven choices may be present.*

*The test lasts eight hours with 45 minutes allotted for break time unless you skip the 15 minute software tutorial.*

It is recommended that you familiarize yourself with the software before you get to the testing facility for three reasons:

- 1) You will feel more comfortable
- 2) You will score better
- 3) You get an extra 15 minutes of break time.

Lunch is considered part of the break time, so use it wisely!

## CONTENT

As described in the 2006 USMLE Bulletin (<http://www.usmle.org>), Step 1 exam tests content covered during the first two years of medical school including:

- Anatomy
- Behavioral sciences
- Biochemistry
- Microbiology
- Pathology
- Pharmacology
- Physiology
- Interdisciplinary topics, such as nutrition, genetics, and aging

Questions are presented in a variety of ways including:

Interpreting graphic and tabular material (Patient photographs, MRI, CT, lab values etc.)

Identifying gross and microscopic pathologic and normal specimens such as pathology and histology slides Images are usually displayed to one side of the question. The software does not allow you to change the view of the image (no zooming or panning).

Applying basic science knowledge to clinical problems. **Most questions are in clinical vignette format so start practicing with these types of questions early.**

Some questions give specific lab values which must be cross referenced to a table of normal values. **It is good to be familiar with these values and their significance.** The table can be displayed anytime during the test. A sample of laboratory values is shown below with a complete list at <http://musom.marshall.edu/usmle/>.

**USMLE Step 1 Laboratory Values**  
 \* Included in the Biochemical Profile (SMA-12)

	<u>REFERENCE RANGE</u>	<u>SI REFERENCE INTERVALS</u>
<b>BLOOD, PLASMA, SERUM</b>		
* Alanine aminotransferase (ALT, GPT at 30°C)	8-20 U/L	8-20 U/L
Amylase, serum	25-125 U/L	25-125 U/L
* Aspartate aminotransferase (AST, GOT at 30°C)	8-20 U/L	8-20 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 (Ca <sup>2+</sup> )	8.4-10.2 mg/dL	2.1-2.8 mmol/L
* Cholesterol, serum	Rec: <200 mg/dL	<5.2 mmol/L
Cortisol, serum	0800 h: 5-23 μg/dL // 1600 h: 3-15 μg/dL 2000 h: ≤ 50% of 0800 h	138-635 nmol/L // 82-413 nmol/L Fraction of 0800 h: ≤ 0.50
Creatine kinase, serum	Male: 25-90 U/L Female: 10-70 U/L	25-90 U/L 10-70 U/L
* Creatinine, serum	0.6-1.2 mg/dL	53-106 μmol/L

**USMLE Step 1 Question Breakdown**

**System**

- 40%–50% General principles
- 50%–60% Individual organ systems:
  - Hematopoietic/lymphoreticular
  - Nervous/special senses
  - Skin/connective tissue
  - Musculoskeletal
  - Respiratory
  - Cardiovascular
  - Gastrointestinal
  - Renal/urinary
  - Reproductive
  - Endocrine

**Process**

- 30%–50% Normal structure and function
- 30%–50% Abnormal processes
- 15%–25% Principles of therapeutics
- 10%–20% Psychosocial, cultural, occupational and environmental considerations

The USMLE website <http://www.usmle.org/step1/intro.htm> provides a detailed content outline of commonly encountered test topics which is useful to use as an outline for study.

Each test block is an assortment of Multiple Choice Questions (MCQs) from the above categories. **Tips for MCQs:**

1. Carefully assess the question by asking "What is being asked in this question?" One way to do this is simply by looking at the last question in the vignette.
2. Try to answer the question before looking at the answer choices, this may keep you from selecting an answer designed to catch your eye.
3. If you cannot arrive at an answer without looking at the answer choices or if your answer is not listed, start eliminating clearly wrong answers. Read each answer

choice fully as some are designed to be mostly correct with errors that can be overlooked.

4. As a general rule answers with strong words such as: Always, All, Completely, etc. can trip you up because of "exceptions to the rule." Be careful with answers that contain these words.
5. If you have no idea on a question, guess and move on rather than wasting time. If you have eliminated a few answers and want to come back to the question, mark it for review with the software.

### **Practicing for the Step 1**

After your registration is complete and you have received your Scheduling Permit, you may register for a practice session for the USMLE examination by following the detailed instructions provided at the USMLE website shown below: [https://external1.nbme.org/CBTPSRegistrationWeb/jsp/usmle\\_CBTPS\\_registration.jsp](https://external1.nbme.org/CBTPSRegistrationWeb/jsp/usmle_CBTPS_registration.jsp)

**Note:** If you register for the practice session, you will receive a separate Scheduling Permit specifically for the practice session. You must have this permit before you can contact Prometric to schedule the practice session. You should allow two weeks to receive your practice session Scheduling Permit.

The cost for the practice test is \$42 and includes a print out telling the number of questions you answered correctly. Please be aware that the test administered at the Prometric practice center is the same test available on the USMLE website. The practice test is for those who wish to simulate the actual test taking experience. **To set up a practice test, contact Prometric at [www.prometric.com](http://www.prometric.com) or 1-800-MED-EXAM.**

### **Other practice test options**

The NBME Comprehensive Basic Science Self-Assessment (CBSSA) is available online at <http://www.nbme.org/programs/sas.asp>. This test costs \$45 and allows you to determine your strengths and weaknesses with a performance profile.

Kaplan and Princeton Review both have programs available for preparation for the Step 1. You can visit their sites at [www.kaplan.com](http://www.kaplan.com) or [www.princetonreview.com](http://www.princetonreview.com).

### **TEST FORMAT**

The test is broken down into seven blocks of fifty questions each, usually having five answer choices. Again, each block is an assortment of questions and does not have a common subject. The questions are displayed on the computer screen in a frame format. The answer choices are grouped together below the question itself. It is highly recommended that you obtain a CD or download the practice test from the USMLE website which will allow you to gain experience with the software you will be using during the examination. (<http://www.usmle.org>)

**You will *not* have matching, “except”, or “not”, questions on the multiple-choice sections.**

Changing answers within a block is possible until the allotted time runs out, but you cannot review or change answers from previous blocks. The software also has features built in so that you can mark questions you want to review at a later time. Practicing the sample test will help acquaint you with this feature.

Occasionally you will encounter a question that is used only for experimental studies and is not graded. Unfortunately these questions are no different from the rest of the test and you will not be able to distinguish these. This can offer both comfort and cause frustration because although you don't know which questions are ungraded, you can always think, "This question is one of their experimental questions!" if it doesn't make any sense to you. Instead of psyching yourself out over a question that you have absolutely no idea about, just guess, move on, and hope it is ungraded. *10-20% of questions are experimental and ungraded.*

*The Step 1 test is designed to test your integration of knowledge and application in clinical settings. A logical progression based approach to each question combined with a firm grasp of the basic concepts will help you score well on the exam.*

## QUESTION BREAKDOWN

Most (approximately 60-80%) of the questions are in clinical vignette format, the rest (approximately 20-40%) are straight content questions. Practicing with these types of questions will help you pick out the important details of the scenario while learning to ignore the superfluous information which may confuse you. There is not a set number of questions from each subject area.

## SCORING FREQUENTLY ASKED QUESTIONS

Q: What percentage of questions needs to be answered correctly to pass?

A: Between 60 and 70%.

Q: Does every test taker get the same questions?

A: No, but the tests are arranged so that comparable areas of content are covered regularly on each exam. For this reason the exact percent of questions that has to be answered correctly varies.

Q: When will the scores be reported?

A: You will usually receive a score report approximately four to six weeks after completion of the exam.

Q: What is the range of scores?

A: Most scores fall between 140 and 260 on the three-digit scale with a mean between 210 and 220. The standard deviation is close to 20.

Q: What is a passing score on the Step 1?

A: 182 on the three digit scale and 75 on the two digit score.

Q: What percent of takers pass Step 1 on their first attempt?

A: Around 93%.

Q: Is a percentile score reported?

A: No, this information is not provided on your score report.

Q: What happens if I leave without finishing the test?

A: No score is reported, but a note is placed on your transcript that the test was started.

Q: What if I fail the test?

A: You can take Step 1 again until you pass it, but there is a 60 day waiting period between testing dates. **The JCESOM policy states that students must pass Step 1 by the third attempt. Failure to do so results in dismissal from JCESOM.**

Q: Can I retake the test to improve my score even if I passed?

A: "If you pass a Step, you are not allowed to retake it, except to comply with the time limit of a medical licensing authority for the completion of all Steps or a requirement imposed by another authority recognized by the USMLE program." (From USMLE.org)

**If you fail...** First, realize that you are not the first or last person that will fail a very difficult exam. Talk to members of previous classes and you are likely to find someone who had to retake the test that may be able to help you. Reassessing your study strategies may be necessary if you fail. The score report sheet provides feedback as to your relative strengths and weaknesses. Use it to improve your weak areas.

#### **ELIGIBILITY AND REGISTRATION**

Eligibility – You must be in one of the following categories at the time of application and on test day:

A medical student officially enrolled in, or a graduate of, a U.S. or Canadian medical school program leading to an MD and accredited by the LCME.

A medical student in a U.S. program leading to a DO degree and accredited by the AOA.

A medical student officially enrolled in a medical school outside the U.S. or Canada and is eligible for examination by the Educational Commission for Foreign Medical Graduates for its certificate.

#### **Timeline and Checklist for Step 1 Registration**

**At least six months in advance** - Apply for Step 1 by visiting the NBME website <http://www.nbme.org/>. During the application process you will select a three month time frame in which you will take the test. Remember that the application process can take up to four weeks to complete during peak periods.

JCESOM students normally take the test in June after the second year classes dismiss and after participating in the JCESOM Step 1 Board Review Course.

You cannot schedule where to take your test with Prometric ([www.prometric.com](http://www.prometric.com)) until you receive your completed application paperwork and scheduling permit. If you want to take the test at your choice location you should plan ahead. If you are unable to take the test

within your eligibility period, contact your registration entity to inquire about a one-time contiguous three-month eligibility period extension. A fee is charged for this service.

**When you receive your scheduling permit** - Carefully verify that all personal information is correct and matches your driver's license or passport as they are not lenient at the testing center. *Your photo ID must have your signature, please make sure of this.* Contact Prometric to schedule a test date.

**One week before the exam** - Contact Prometric to confirm the exam appointment then make travel arrangements. On rare occasions the location may be changed, so it is important to confirm your appointment and then make travel plans.

**Day of the test** - Make sure you have your scheduling permit and photo identification with matching information. *You cannot take the test without both of these.* Have an analog watch available to monitor your break time (digital watches are not permitted). Do not bring valuables or cell phones into the testing facility. When you receive your application and scheduling permit it will contain a Candidate Identification Number (CIN), which is also needed to take the test.

**After the Test** - Celebrate regardless of how you feel about the test. It is a good idea to have something fun planned to do after the test. This will give you something additional to look forward to besides being finished with the test.

**Locations of testing centers** - A list of testing facilities is provided on the Prometric website ([www.prometric.com](http://www.prometric.com))

Some of the sites that were used by students at JCESOM include: Charleston, WV (most common site used); Morgantown, WV; Cambridge, OH; and Lexington, KY.

**If you need to change your testing location** - Make sure you notify Prometric at least five days in advance of your scheduled testing date or you will be charged a fee of \$90. There is no fee if you give them proper notice, but remember it is not always possible to get an appointment during the busy season (May-July).

**Test Cost** - Exam fee is approximately \$400.

### **Examinees with Disabilities (From USMLE.org)**

The USMLE program provides reasonable accommodations for examinees with disabilities who are covered under the Americans with Disabilities Act (ADA). If you are a disabled individual covered under the ADA and require test accommodations, the following guidelines apply to you:

You must obtain information regarding procedures and documentation requirements in advance of applying for each Step or Step Component. This information is available from the USMLE website, from your registration entity if you are applying for Step 1, Step 2 CK or Step 2 CS, or from the FSMB website if you are applying for Step 3.

Your application and your request for accommodations and accompanying documentation must be submitted at the same time to the appropriate mailing addresses. If you are applying for Step 2 CS, review the informational materials available on the USMLE website before requesting test accommodations.

When USMLE examinations are taken with test accommodations, score reports and transcripts may include an annotation that an accommodation was provided.

### Helpful Links

Details about the test from USMLE:	<a href="http://www.usmle.org/step1/default.htm">http://www.usmle.org/step1/default.htm</a>
Registration site for Step 1:	<a href="http://www.nbme.org">http://www.nbme.org</a>
Practice test at a Prometrics center:	<a href="https://external1.nbme.org/cvpt/cvpt_p_practice.logon_screen">https://external1.nbme.org/cvpt/cvpt_p_practice.logon_screen</a>
Online forum of student experiences:	<a href="http://www.prep4usmle.com/forum/102/19">http://www.prep4usmle.com/forum/102/19</a>
UC Davis SOM Step 1 website	<a href="http://www.ucdmc.ucdavis.edu/ome/osler/usmle.html">http://www.ucdmc.ucdavis.edu/ome/osler/usmle.html</a>
Kaplan Q-bank	<a href="http://www.kaplanmedical.com">http://www.kaplanmedical.com</a>
USMLEasy	<a href="http://www.usmleasy.com">http://www.usmleasy.com</a>
Get a map to your test site:	<a href="http://www.mapquest.com">http://www.mapquest.com</a>

### Tips From JCESOM Medical Students –

- Read the Board Review Series (BRS) books with your classes and start reviewing earlier. For instance, read the BRS cardiac physiology when you are doing cardiac pathology.

*Aaron Parry – Class of 2008*

- On the subject of stress relief -- Play Four-Square, Frisbee, and Football. Also, taking the test itself is a major way to relieve stress.

I found that the Buzzwords book was really good to study, as well as the Case Files book for Anatomy. First Aid (2005 edition) was also a great help. I also made my own note cards from the study sketches that I had done over the first two years and took notes on them for a quick review of various elements of anatomy, pathology, pharmacology, etc.

*Lucia Soltis – Class of 2008*

- Learn the class material concurrent with review books.

*Tracy Hendershot – Class of 2008*

- The Kaplan questions were probably the best, although they are MUCH SHORTER than the actual USMLE questions. I would usually finish a block of 50 practice Kaplan questions with approx 15-20 min left. I barely had time to finish any USMLE block of 50 questions, though.

The book Step-Up to the Boards is really good and augments First Aid very well. First Aid is very weak in neurology, microbiology, and a few other things. So Step-Up is a good

choice, although the Kaplan book looked good (I only saw a friend's copy of the Kaplan book).

The BRS Pathology book is a MUST, in my opinion, although lots of people liked Goljian's book better. Regardless, you should know LOTS of pathology because it will help carry you through the normal physiology.

I would just suggest that anyone start reviewing about February. Get the Kaplan Early Bird option and start doing questions early. Then pick a section of physiology to review between every block exam. Then study nonstop once classes are over in May of second year.

*Rob Hayes – Class of 2008*

- For step 1, I read First Aid twice, BRS Pathology, BRS Physiology, HighYield Pharmacology, answered about 800 Q-bank questions, and attended most of the review class offered by JCESOM.

I also took the free mini simulated step 1 (300 questions) exam offered through the NBME website. Most of it was helpful, but I would recommend reading something on cell/molecular biology and genetics because there was a lot of that on my exam as well as others in my class.

Some advice to your class is to start early by supplementing class notes by reading board review books.

*Andy Stack – Class of 2008*

- If you put the time in studying hard for the courses you have during your 2nd year, then you will learn A LOT of what you need to know for the boards. Concentrate on learning really well what you are taught this year, then brush up on the stuff from the first year in the month you have between finals and boards.

Questions were very helpful. When I went in to take the test I felt like I was just doing more questions. It made the big day less stressful.

The First Aid is good for a basic review, but it is not very detailed. If you have the grid book for Pathology and Physiology they are both pretty helpful. The Board Review course was pretty good also.

All in all, it is just doing what works for you and putting in a lot of hours studying.

*Amanda Pauley – Class of 2008*

## USMLE STEP 2

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A LITTLE DIFFERENT...

Step 2 of the USMLE assesses your ability to apply your medical knowledge, skills, and understanding of medicine. It tests your ability to use all the knowledge that you have obtained during your tenure at medical school and is devoted to the application of clinical and patient-centered skills that provide a basis for the safe and effective practice of medicine.

The Step 2 Examination is broken down into two components:

- ❖ Clinical Knowledge (CK)
- ❖ Clinical Skills (CS)

The CK uses a multiple-choice format to test your clinical knowledge and the application of that knowledge. The CS uses **standardized patients** to test your ability to gather information from patients, perform physical examinations, and communicate your findings to your patient and colleagues.

### Clinical Knowledge

#### ❖ Introduction

The CK portion of the Step 2 is a **computerized, multiple-choice examination** that assesses whether you possess the medical knowledge and understanding of clinical science essential for delivering patient care **under supervision** (as opposed to Step 3 where you display competency without supervision). The exam is **9 hours long** and tests your ability to practice medicine in a postgraduate training setting.

#### ❖ Content

Step 2 CK primarily tests primary care medicine. Questions are typically, however not exclusively, on diseases and disorders. The subjects to which these disorders belong includes, but is not limited to:

- Dermatology
- Emergency Medicine
- Geriatrics
- Internal Medicine
- Neurology
- Obstetrics and gynecology
- Pediatrics
- Preventive Medicine and Public Health
- Psychiatry
- Surgery

A detailed description of examination content areas is found at [www.usmle.org](http://www.usmle.org).

#### ❖ Test Format

The **9-hour computerized** Step 2 CK examination is made of approximately **370 questions**, divided into **8 “blocks”**. **Each “block” is 1 hour long**. As such, **each “block” contains 46-47 questions** encompassing many of the topics listed above. You will be able to skip around from question to question only within each “block”.

When you begin the examination, a 9-hour session clock will begin to countdown. **Within this countdown, you will have to finish all eight 1-hour “blocks”**. Remember, **you only have 1-hour for each block**. When you begin each block, a **60-minute timer begins to countdown**.

The additional hour is provided to view an approximately 15-minute tutorial and to take breaks, **which includes lunch**. Since, you can view the tutorial on the demonstration disk provided by the USMLE, we suggest that you view it prior to the exam in order to have the full 1-hour for breaks. If you complete a “block” early, this time can be added only to your break-time and not to any other “block”.

## ❖ Question Breakdown

### *No Specific Order*

The multiple-choice questions on the Step 2 CK are presented in a **random, interdisciplinary sequence with no “content-specific” sections**. As such, it makes the exam more difficult since you will be required to organize your thought process to accommodate a rapid switch between subjects. It is beneficial to begin studying and preparing mentally for this type of examination.

### *Longer Questions*

Prepare yourself for questions which are **longer than the ones you will encounter on the Step 1 exam**. Each question will require the ability to interpret patient histories, physical signs/symptoms, tables, imaging studies, and the results of other diagnostic studies. Since you will have a limited amount of time to read, interpret, and answer the question, it is imperative that you develop the necessary skills to spot key indicators while reviewing the question.

### *2 Types of MCQs*

The Step 2 CK will have 2 types of questions: **single best answer** and **extended matching**.

- **Single Best Answer (75 – 80%)** These questions are given at the beginning of each section. You are presented with a statement or question that requires the single, **best** answer. While reading the answer, you will be tempted to think that there are multiple answers, but remember that one answer is better than the rest. Although the number of options varies, a question with five options is normally the most common. In addition, **there will be no negatively phrased questions**. These are questions which use the words NOT, EXCEPT, or LEAST.

Strategies for these types of questions include:

- Careful reading and extrapolating the essence of the question

- Coming up with an answer prior to looking at choices
- Eliminating those answers which are clearly incorrect then choosing the best answer from those remaining
- Guess, guess, and guess!!! **Unanswered questions are always wrong and you are not penalized for guessing**
- Extended Matching (20 – 25%) – These questions consist of a series of questions that are grouped to a common topic. Each extended matching set will have its own set of instructions. But, essentially, you will be given a set of related options in which to answer posed questions or scenarios. The pool of options, are the same throughout the set. **It is important to realize that each option can be used multiple times.**

Strategies for these types of questions include:

- Careful reading
- First try to generate the answer, then search for it in the pool of options
- Take each question independently
- Eliminate answers which are clearly incorrect then choose the best answer from those remaining
- Guess, guess, and guess!!! **Unanswered questions are always wrong and you are not penalized for guessing**

#### *Understanding the Step 2 CK Questions*

Basically, you need to be aware ways of questioning. These include the Double-Jump, and Clinical Case Questions.

- Double-Jump – These questions require that you make a series of correct answers to reach the ultimate answer. These are the type of questions which will frustrate you since you will know some of the answer but not all of it. This is especially frustrating when you have eliminated all incorrect answers but two. In these situations, it is important to distinguish what makes the two answers different and then basing your decision on that difference. **If you are not able to determine a difference between the two answers you have narrowed it down to, you should reread the question and options, as you may not have understood the essence of the question.**
- Clinical Case – In these questions, you will be given a long clinical case which is intended to present you with a real world scenario. Within this case, multiple clues will be given to answer the subsequent questions. It is important to understand the very first line of each question as this serves as the “setup”. This gives the patient’s age, gender, race, socioeconomic status, etc. The last line of the question is also important as it asks the ultimate question.

**Remember, the options will have multiple “distracters” to sway you from the right answer.** “Distracters” are options that are designed to draw you into selecting them rather than the correct answer by using such things as common buzzwords or false clues. In addition to these “distracters” are “false clues” which are designed to lead you to the “distracters”. It is prudent

to understand why the other options are not correct. Begin developing the skill to identifying key clues in the clinical case presentations. **Always try to make sure you have at least three supporting clues for your ultimate answer.**

❖ **Scoring**

The current passing score for the USMLE Step 2 CK is **182**, which means that you must answer 60 – 70% of the items correctly.

The mean first-time scoring average is 210 – 220 with a standard deviation of 20. Your score report will include the mean and standard deviation for the recent administrations of the exam. You will also receive a 2-digit score that is derived from the 3-digit score and is used to meet requirements of some medical licensing authorities.

In addition, you will receive a graphical profile displaying your strengths and weaknesses. Percentiles are not provided in connection with your USMLE scores.

❖ **Eligibility and Registration**

- Eligibility – You must be in one of the following categories at the time of application and on test day
  - A medical student officially enrolled in, or a graduate of, a U.S. or Canadian medical school program leading to an MD and accredited by the LCME.
  - A medical student in a U.S. program leading to a DO degree and is accredited by the AOA.
  - A medical student officially enrolled in a medical school outside the U.S. or Canada and is eligible for examination by the Educational Commission for Foreign Medical Graduates for its certificate.

**Students in the U.S. or Canada can take the Step 2 exams prior to taking Step 1 or at the same time.**

You must select a 3-month period during which you will be granted a Scheduling Permit **with instructions** for making an appointment at a Prometric Test Center. Center locations are available at: [www.prometric.com](http://www.prometric.com)

▪ **Registration**

U.S. and Canadian medical students:  NBME Examinee Support Services 3750 Market Street Philadelphia, PA 19104-3190 Website: <a href="http://www.nbme.org">www.nbme.org</a> Telephone: (215) 590-9700	Outside of the U.S. or Canada:  ECFMG 3624 Market Street Philadelphia, PA 19104-2685 Website: <a href="http://www.ecfm.org">www.ecfm.org</a> Telephone: (215) 386-5900 Fax: 9215) 386-9196
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Fax: (215) 590-9457 E-mail: <a href="mailto:webmail@nbme.org">webmail@nbme.org</a>	E-mail: <a href="mailto:info@ecfmq.org">info@ecfmq.org</a>
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## **Step 2 Clinical Skills**

### **❖ Introduction**

The USMLE Step 2 CS is a **1-day live exam** which simulates a physician's typical workday. **You will have 15-minutes to examine each "standardized patient"**. This patient is an actor chosen from a broad range of candidates that is used to portray a real patient. You will be required to communicate with the patient in a professional and empathetic manner while simultaneously eliciting important historical information and performing a physical examination. The examination will include answering questions from the patient, telling them your diagnoses, counseling, and informing them of tests you are ordering. After this patient encounter, you must record their history and physical examination findings, list diagnostic impressions, and outline any further plans for evaluation. This test will examine your clinical and communication skills.

### **❖ Content**

The cases that you will encounter are mostly designed specifically to display your ability to list and pursue possible diagnoses. However, some cases may concentrate solely on history taking and the physical examination. Although patients will be adults, be prepared to have encounters with parents of a child, daughter of an elderly patient, etc. In these instances, you will not have to perform a physical examination.

The Step 2 CS assesses whether you can, under real-life circumstances, demonstrate the fundamental clinical skills needed for safe and effective patient care under supervision. As noted, you will need to explore all possible diagnoses. As such, presentation categories will include, but are not limited to the following:

Cardiovascular Constitutional Gastrointestinal Genitourinary Musculoskeletal	Neurological Psychiatric Respiratory Women's Health
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A detailed description of examination content areas are displayed on the USMLE website at [www.usmle.org](http://www.usmle.org). Please note that not all the listed topics are included on each exam and that categorizations and content coverage is subject to change.

### **❖ Test Format**

In the course of the exam you will see 11 to 12 patients and will encounter a different case in each room. **Only 11 will be scored, but you do not know which they will be.**

So treat each patient as if they will be scored. You will have **15-minutes** for each patient to:

- Establish rapport
- Take a history
- Perform the physical examination
- Demonstrate communication and interpersonal skills
- Document findings and diagnosis

When entering each room, pertinent information about the patient will be posted, such as name, age, vital signs, etc. Since the patients are standardized, they are trained to respond similarly to questions regardless of the examinee.

**You will NOT perform a rectal, pelvic, genitourinary, female breast, corneal reflex, and inguinal node or hernia examination procedures.**

Following the encounter, you will have **10-minutes** to write down your notes that should include:

- Relevant history
- Physical exam findings
- Diagnostic impressions
- Any plans for further work-up

**The total examination length is 8-hours with one 30-minute break and one 15-minute break.**

### ❖ Scoring

Unlike the Step 1 or Step 2 CK, scoring on the Step 2 CS is purely **pass or fail**. If you fail, you will receive a performance profile indicating your strengths and weaknesses.

There are 3 checklists and rating methods for the patient encounter and patient note taking. You must pass all three. They are:

- Integrated Clinical Encounter (ICE) – history-taking, physical examination, and completion of patient note
  - Communication/Interpersonal Skills (CIS) – ability to convey and understand information presented during the encounter (establishment of rapport)
  - Spoken English Proficiency (SEP) – your ability and mastery of the English language
- **Note that there is no expiration on a passing score on the Step 2 CS.**

### ❖ Eligibility and Registration

- Eligibility – You must be in one of the following categories at the time of application and on test day

- A medical student officially enrolled in, or a graduate of, a U.S. or Canadian medical school program leading to an MD and accredited by the LCME
- A medical student in a U.S. program leading to a DO degree and is accredited by the AOA.
- A medical student officially enrolled in a medical school outside the U.S. or Canada and is eligible for examination by the Educational Commission for Foreign Medical Graduates for its certificate.

Students in the U.S. or Canada can take the Step 2 exams prior to taking Step 1 or at the same time.

▪ **Registration**

<p>U.S. and Canadian medical students:</p> <p>NBME          Examinee Support Services          3750 Market Street          Philadelphia, PA 19104-3190          Website: <a href="http://www.nbme.org">www.nbme.org</a>          Telephone: (215) 590-9700          Fax: (215) 590-9457          E-mail: <a href="mailto:webmail@nbme.org">webmail@nbme.org</a></p>	<p>Outside of the U.S. or Canada:</p> <p>ECFMG          3624 Market Street          Philadelphia, PA 19104-2685          Website: <a href="http://www.ecfm.org">www.ecfm.org</a>          Telephone: (215) 386-5900          Fax: 9215) 386-9196          E-mail: <a href="mailto:info@ecfm.org">info@ecfm.org</a></p>
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**Once you have registered, you must schedule your test date within your assigned 12-month eligibility Scheduling Permit.** Scheduling is on a first-come, first-served basis and can be scheduled online. If you are unable to schedule online, you can call (215) 966-3574 (9:00 AM to 5:00 PM EST Monday – Friday) to speak to a scheduling representative.

❖ **Fees**

**The fee for U.S and Canadian medical students is \$975** and it is \$1,200 for international students.

Other Fees

- \$50 rescheduling fee if canceled 30 days or more before the test date.
- \$150 is rescheduled within 30 days of test date.
- \$400 rescheduling if not canceled.

\* Note that there is no limit to the number of times you reschedule.

❖ **Evaluation Centers**

Listed below are the Step 2 CS regional Clinical Skills Evaluation Centers (CSEC) which will serve as the administration sites:

**CESC – Atlanta**  
 Two Crown Center

1745 Phoenix Boulevard, Suite 500  
Atlanta, GA 30349

**CESC – Chicago**

Crossroads Center at O'Hare  
6<sup>th</sup> Floor  
8501 West Higgins Road  
Chicago, IL 60018

**CESC – Houston**

400 North Belt  
400 North Sam Houston Parkway  
Suite 700  
Houston, TX 77060

**CESC – Los Angeles**

Pacific Corporate Towers  
13<sup>th</sup> Floor  
100 N. Sepulveda Boulevard  
El Segundo, CA 90245

**CESC – Philadelphia**

3624 Market Street  
Philadelphia, PA 19104

## USMLE STEP 3

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### INTRODUCTION

The main objective of Step 3 is to assess the ability of the physician to apply what has been learned in the preceding years of medical school to clinical situations. *Basic science fundamentals are tested during Step 3, but this is not the main purpose of the test like on the Step 1 and 2 exams.* These topics are important in Step 3 for incorporation of knowledge and its application to the clinical scenario.

Much of the Step 3 exam focuses on physician tasks such as managing needs of existing patients and decision making on treatment based upon the severity of a new patient's presenting symptoms. The test is *designed to measure physician judgment and determine if safe practices will be followed once the physician begins independent practice.*

Like the Step 1 and 2 exams, Step 3 is a computer-based test. The question format is a patient centered clinical vignette with either a multiple choice/best answer or a case simulation which involves management of care and is more subjective. *Most of the clinical vignettes involve typical diseases, but others also test on more obscure relevant topics that are likely to be encountered in practice.*

The test is designed with interchangeable elements that vary to define the clinical situation. These elements include where the clinical encounter takes place and the designated task that is to be performed.

The circumstances classify the encounter as new or ongoing, based on seriousness of the disease and its impact on haste, and the setting of the interaction. The main settings consist of initial consultation, continued care, or ER situations.

There are six categories of physician tasks including: 1) history/physical exam/, 2) using laboratory values, 3) differential diagnosis, 4) determining severity of the problem, 5) ongoing management of a problem, and 6) application of basic science.

Continued care of previously diagnosed patients makes up several of the situations on the Step 3 exam. Approximately 50-60% of tasks deal with continued care as can be seen on the blueprint provided on page 26 and at: <http://www.usmle.org/step3/blue.htm>

## CONTENT

The "evaluative objectives" for Step 3 are listed on the USMLE website at <http://www.usmle.org/step3/evalobj.htm>. The overview list of topics is below:

- Obtaining History and Performing Physical Exam
- Objectives Related to Using Laboratory and Diagnostic Studies
- Objectives Related to Formulating the Most Likely Diagnosis
- Objectives Related to Evaluating the Severity of Patient's Problems (Prognosis)
- Objectives Related to Managing the Patient
- Management of Health
- Maintenance and Disease Prevention
- Clinical Intervention
- Clinical Therapeutics
- Legal/Ethical and Health Care Systems
- Objectives Related to Applying Scientific Concepts

## TEST FORMAT

Questions are MCQs or computer-based case simulations (CCS). *The first eight-hour day of testing consists of around **336 MCQs, divided into 48 question-1 hour long blocks.*** This setup allows for one hour of break time to be taken throughout the course of the testing.

The second eight hour day consists of around **144 MCQs divided into 36 question-45 minute blocks**. There are **nine clinical case simulations** with a time limit of four hours following the multiple choice portion of the test. Again, on the second day a total of one hour of break time is allowed.

The one hour of break time is actually only 45 minutes and a 15 minute tutorial on using the software, but it is possible to familiarize yourself with the software before going to the testing facility. *This is highly recommended.* The tutorial can be downloaded at <http://www.usmle.org/Orientation/2006/menu.htm>

### **Multiple Choice Section-**

The MCQs on Step 3 usually consist of five answer choices, but some contain more. One factor that makes the Step 3 test different is that many of the questions are based from the perspective of the patient. A situation is detailed and may be supplemented by lab values or other visual information. *Managing the patient based on the situation is again the most important consideration on Step 3.*

The blocks of MCQs are divided so that you can go back and change answers only for that block. Once the time is up for a given block it cannot be reviewed. Even if you finish a block ahead of time you cannot accumulate extra time for use on the subsequent blocks, but you can get extra break time. Be careful though as you may be better off reviewing your answers for errors or points you may have missed the first time through.

Common values are available for review during each block of the MCQ exam. The computer is set up to allow quick access to these values and return to the active question. Other helpful features of the test interface include the ability to mark a question if you want to come back to it as well as the test automatically flagging questions you have not answered when you get to the end of the block.

A good way to familiarize yourself with the interface is to take a sample test like the one located at <http://www.usmle.org/Orientation/menu.htm> (Please note that the software does not support Macintosh at the time this was written.)

To take the sample test you need to have privileges to install programs so it may be best to use an off campus computer or contact someone who has administrator rights such as Marshall University Computing Services ([helpdesk@marshall.edu](mailto:helpdesk@marshall.edu)) or (304) 696-3200 8:00 AM to 5:00 PM weekdays.

### **Computer-based Case Simulations-**

The computer simulations are specifically designed to test decision making ability and logical reasoning in the practice of medicine. The CCS allows you to care for a virtual patient by reviewing their medical charts and ordering various procedures. When you are satisfied that you have performed the necessary tasks you can advance the clock to a later time.

The patient's information is updated based on the care that you provide. Often, but not always, their condition will coincide with the treatment you supply. This is a potential problem for some test takers because they assume that if the patient is worsening they should change their course of action. *If you are certain that you are doing the right*

*procedures after reevaluating the patient, continuing your treatment is most likely the proper care.*

The CCS is set up so that you are given vital signs, chief complaint, and history of present illness for each patient along with the setting (office, ICU, or ER). The CCS are completely based on free entry of text into the input screen. **There is no multiple choice.** You are expected to gather data and write orders based on the changing situation. Sometimes it is necessary to take quick action before getting a complete workup on a patient. The USMLE website indicates that there is a mixture of settings for the patients among the nine CCS.

Grading of the CCS is based on a computer program scoring rubric. You are awarded points when you perform a necessary or relevant procedure and are docked points if you do something potentially dangerous or contraindicated. The most important factor to remember when doing the CCS is that you are rewarded for correct practices, but you are also rewarded for efficient practice. This means you may actually lose points if you are overly cautious. This may seem unfair, but part of the test is measuring your effectiveness as a professional.

There are many hints and strategies available for the CCS portion of the Step 3 exam. Some of these include shortcuts in entering orders where the computer recognizes the first three letters that you type, when to provide immediate care, and even commonly seen situations. Review books like “Step Up” or “First Aid for Step 3” are good examples of sources for these types of tips.

*It is highly recommended that you download and practice with the CCS software from the USMLE website. Learning common shortcuts and layouts of the testing interface will definitely help your score.*

### **Practicing at a Prometric testing center-**

This service is available if you want to simulate what the actual testing scenario will be like. The value of this test is up to you because the questions that will be presented are the same as those you can download from the USMLE website. The benefit is in the scoring of the MCQs, the CCS are not scored. The cost for this practice exam was \$48 for Step 3, but you should check the website for changes. Visit [https://external1.nbme.org/CBTPSRegistrationWeb/jsp/usmle\\_CBTPS\\_registration.jsp](https://external1.nbme.org/CBTPSRegistrationWeb/jsp/usmle_CBTPS_registration.jsp) to sign up.

### **Question Breakdown**

PHYSICIAN TASKS	CLINICAL ENCOUNTER FRAMES			TOTAL
	Initial Work-ups 1	Continuing Care 2	Urgent Intervention 3	
History & Physical				8-12%
Diagnostic Studies				8-12%
Diagnosis				8-12%
Prognosis				8-12%
Managing Patients				
Health Maintenance				5-9%
Clinical Intervention				18-22%
Clinical Therapeutics				12-16%
Legal & Ethical Issues				4-8%
Applying Basic Concepts				8-12%
<b>TOTAL</b>	20-30%	50-60%	15-25%	100%

The USMLE website details the most common diseases tested but is not intended to be a complete list. A list is included below with a list of disease classifications. The full list of commonly tested diseases is also available at: <http://www.usmle.org/step3/probdis.htm>

- Diseases/Disorders of the Central Nervous System
- Diseases/Disorders of the Eye
- Diseases/Disorders of the Ear/Nose/Mouth/Throat
- Diseases/Disorders of the Respiratory System
- Diseases/Disorders of the Circulatory System
- Diseases/Disorders of the Digestive System
- Behavioral/Emotional Disorders
- Diseases/Disorders of the Musculoskeletal System
- Diseases/Disorders of the Skin/Subcutaneous Tissue
- Diseases/Disorders of Endocrine/Nutrition/Metabolism
- Diseases/Disorders of the Kidneys and Urinary Tract
- Diseases/Disorders of the Male Reproductive System
- Diseases/Disorders of the Female Reproductive System
- Pregnancy/Childbirth

- Neonate/Child
- Diseases/Disorders of the Blood/Blood-forming Organs
- Infectious/Parasitic Diseases
- Injuries/Wounds/Toxic Effects/ Burns
- Health Maintenance
- Ill-defined Symptom Complex

**Scoring-**

**Passing score on Step 3 - 184** on the three-digit scale and **75** on the two digit scale. Note: The two digit score is not a percentile, these are no longer reported.

**Eligibility and Registration**

Eligibility – You must be in one of the following categories at the time of application and on test day

- A medical student officially enrolled in, or a graduate of, a U.S. or Canadian medical school program leading to an MD and accredited by the LCME.
- A medical student in a U.S. program leading to a DO degree and is accredited by the AOA.
- A medical student officially enrolled in a medical school outside the U.S. or Canada and is eligible for examination by the Educational Commission for Foreign Medical Graduates for its certificate.

Registration – FSMB  
 Department of Examination Services  
 PO Box 619850  
 Dallas, TX 75261-9850  
 Website: <http://www.fsmb.org>  
 Telephone: (817) 868-4041  
 Fax: (817) 868-4098  
 Email: [usmle@fsmb.org](mailto:usmle@fsmb.org)

**Helpful Links:**

Get familiar with the test at:	<a href="http://www.usmle.org/step3/default.htm">http://www.usmle.org/step3/default.htm</a>
Visit this site to register to take Step 3:	<a href="http://www.fsmb.org/m_usmlestep3.html">http://www.fsmb.org/m_usmlestep3.html</a> <a href="https://external1.nbme.org/CBTPSRegistrationWeb/jsp/usmle_CBTPS_registration.jsp">https://external1.nbme.org/CBTPSRegistrationWeb/jsp/usmle_CBTPS_registration.jsp</a>
Step 3 practice test at a Prometrics center:	<a href="https://external1.nbme.org/CBTPSRegistrationWeb/jsp/usmle_CBTPS_registration.jsp">p/usmle_CBTPS_registration.jsp</a>
General information and hints on Step 3:	<a href="http://www.residencyandfellowship.com/">http://www.residencyandfellowship.com/</a>
National Board of Medical Examiners:	<a href="http://www.nbme.org">http://www.nbme.org</a>

**Retaking USMLE Tests-**

If you fail or do not complete a Step or Step Component and want to retake it, you must reapply by submitting a new application and fee.

- You may take the failed or incomplete Step or Step Component no more than three times within a 12-month period.
- No Step or Step Component may be taken sooner than 60 days after your previous test date.
- For Step 1 and Step 2 CK: You may retake the examination no earlier than the first day of the month that begins at least 60 days after your previous test date.
- For Step 2 CS and Step 3: Your eligibility period for the retake will begin no earlier than 60 days after the date of your prior attempt.
- **For Step 3: You may not reapply sooner than 60 days after your last attempt.**

## STRATEGIES FOR SUCCESS

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### Stress Management

When beginning to study for the USMLE tests it is important to manage your stress level. Three core concepts to reducing your stress levels for the USMLE include the 3 P's: *Preparation, Performance scheduling, and Prime conditioning.*

- ❖ ***Preparation*** – Only when you have a full understanding of the task that is at hand, can you begin to prepare. It is vital that you review the sections mentioned in this handbook for the particular USMLE exam that you are taking. It is important to not only review this handbook, but gain as much information about the test as you can. You can do this by researching any of the sites listed in the “Resources” section of this handbook. The JCESOM cultivates a cooperative atmosphere between students and teachers and also between students themselves. No one can better describe the exam than someone who has already taken the exam. Ask your third year colleagues about their experience with the USMLE Step 1 and recent graduates about USMLE Step 2.

#### **When should I start preparing?**

Immediately. A direct correlation exists between how prepared you are and how well you perform. You can never be too prepared. How many times have you performed poorly due to over-preparation? Probably never.

#### **What should I be doing to prepare?**

Know as much about the test as you can as soon as you can. Know when it is given; know the format; know how much time you have; know who makes the questions; know what is considered *high-yield*; etc. Being informed early allows you correlate your class work into your *Plan of Action*. Other helpful tips include:

- Taking **diagnostic practice tests** to assess your knowledge and familiarize yourself with the test. Make sure your preparation includes computer-based practice questions, as it may be disconcerting if you have never taken them.
- Decide early on what preparation material you will use. A common mistake medical students make is the last-minute review book purchase. This is when the student, near the time of the exam, hurries to a bookstore to make a hasty decision on which review book to buy. Look early and carefully at your selections and most importantly, use them!!!

- Create **review sheets** during your course studies to which you can review later. You will be amazed at how easily you can recall your own review sheets.
- Use old exams to study.
- Cultivate your **problem solving techniques**. Numerous questions on the USMLE are catered towards problem solving rather than general knowledge. **Less than 30%** of the questions are strictly recollection.
- In line with problem solving, begin to think and review information on an **organ or system overview**. This will allow you to integrate different subjects and prepares you for the interdisciplinary questioning that is favored by the USMLE.
- Grow accustomed and comfortable with tables, charts, data sets, and visuals (X-rays, slides, etc.) during your course studies.
- Begin to decipher what is **vital information** and what is not. This is only possible if you know what the exam is testing. In your studies, you will be bombarded with information which may not be seen in the USMLE. Sometimes your instructors will tell you whether the information is not vital or is controversial. Learn to place a lower priority on these topics. However, often your instructors will tell you topics which are frequently seen on the USMLE. Know these items.
- **Consider study groups** of three to five. Find classmates who are as motivated as yourself, in order to challenge you and keep you committed to the task at hand. Take turns in leading the group in discussions and presentations. When reviewing questions, come debate and come to a consensus prior to reading the answers and explanations.
- Sign up for your exam early. Look at the important dates section of this manual.

Finally, make sure to use the resources and programs that JCESOM has created for you at: <http://musom.marshall.edu/usmle/>

- ❖ **Performance scheduling** – one of the best ways to defeat stress is to schedule your time and sticking to that schedule. Here are some tips in creating your schedule.
  - Plan for success by setting up goals. For example, set up a goal to learn all the endocrine hormones by a certain date. Once achieved, reward yourself.
  - Set up times for quick review of previous materials. The USMLE does not lend itself to total cramming! In order to perform well on the exams, you must be able to apply knowledge that has been solidified over numerous consolidation sessions.

- **Make your schedule attainable.** Studying for the USMLE is a marathon. For example, you will not take the USMLE Step 1 exam until after your second year. If you begin to strenuously study for the exam on day 1, you will quickly “run out of gas”. However, if you set up an attainable schedule, you will find that you are capable of a strong finish. It is imperative that you pace yourself.
  - Correlate your USMLE study with your medical school courses. It will be far more efficient and effective if you link your USMLE topics with your course studies. It is no big secret that medical school courses are very demanding and will take up the majority of your time. However, with effective planning, there is no reason that your USMLE preparation cannot coincide. This will alleviate you from trying to study “hard” rather than studying “smart”. For example, if you have an anatomy test on the muscles of the upper limb, it would be a great idea to schedule a review of our online question bank pertaining to the upper limb.
  - Leave time for relaxation. **Make sure that you leave ample time for extracurricular activities and for significant others.** This is very important in stress management and assuring against “burning-out”.
  - Leave time for unexpected occurrences. It is conceivable that within your first two years of medical school, you will be faced with an unexpected event that will require your time away. As such, it is prudent to leave a little leeway in your scheduling for these events.
  - Several months prior to each exam, begin to prepare a more concentrated USMLE schedule. We recommend that during this time your schedule includes a comprehensive review course such as that offered by JCESOM.
- ❖ **Prime conditioning** – in order to effectively manage your stress, you must not neglect your mind and body. This is achieved only through training and conditioning. It is important that you become aware of such things as your nutrition, your exercise habits, and your mental health. Below are some tips.
- **Minimize the amount of junk food** that you eat. You will certainly be tempted to go to fast foods especially when you are cramming for time. Begin to think about how to plan healthy meals. If you must eat at fast food restaurants opt for the salad or grilled chicken over the double cheeseburger. Eating greasy and fattening foods in large amounts will tend to make it more difficult to concentrate and stay awake, as well as, declining your body’s ability to deal with stress.
  - **Exercise.** Exercise is an excellent outlet for stress, keeps you feeling confident and fit and sharpens your mind.
  - **Discover an outlet for enjoyment.** Find a hobby, sport, or recreation that you can use as a mental break. These hobbies can be things that have nothing to do with medicine, such as reading, basketball, television, etc.
  - **Consolidation.** During your studying, take some time to allow your brain some time to consolidate information. Most recommend 50 minutes of study with 10-15 minutes of rest. It is important that you allow yourself downtime for relaxation and consolidation. Anytime you feel mentally fatigued and you begin to forget

recently reviewed material, your body is telling you that it is time for a break. It is more productive if you take breaks prior to episodes of fatigue. The break is important not only for rest, but for consolidation. Consolidation of information frequently occurs during your downtime. In addition, effective consolidation requires blocks of information that are not too large. If you wait too long between breaks, some of the material that you have studied may not get solidified during your brain's process of consolidation. It may be helpful to study different subjects with smaller blocks of time rather than studying one subject for a long period of time. For example, you may want to study cardiac physiology for an hour then study histology for a second hour, rather than studying cardiac physiology for two straight hours.

- **Get plenty of sleep.** In order to deal with stress and perform to your best, you will need ample sleep. Although different people require different amounts of sleep, studies have shown that 7 to 8 hours is normally sufficient.

### Effective Studying Habits

Throughout this USMLE guidebook, we have detailed several effective study habits and as well as common pitfalls to avoid. We have included some of these very effective tips below:

- Get plenty of sleep, exercise, and rest.
- Take ample breaks with an enjoyable activity.
- Prioritize information and determine what is “crammable”.
- Create a plan of action and execute.
- Regulate stress levels.
- Familiarize yourself with charts, graphs, tables, and images.
- Compare and purchase review books early in order to familiarize yourself with what works best for you.
- Work in study groups.
- Use a system-based approach when studying subjects.
- Become comfortable with clinical vignette style questions.
- Early on, assess your strengths and weaknesses and work on prioritizing weaknesses first.
- When you feel that the information is not being absorbed, take a break.
- Take practice tests.
- Develop your problem-solving skills.
- Make adequate time for family and friends.
- Do not try to review material that you have not yet learned.
- Remember, review/grid books are not textbooks nor are they substitutes. Review/grid books are designed to reinforce the groundwork that your basic science curriculum is teaching you. They are not designed to teach you the subject.

### Prioritizing Information

Begin to discover what is deemed “high yield”. You will be able to decipher this from your instructors, experienced students, review books, and practice exams. **Concentrate mostly on “high-yield” subjects.** Then, determine what lends itself to cramming and what does not. Usually difficult processes are not crammable whereas light memorization is. **Review non-crammable information from “high-yield” subjects first.** After learning a new topic,

make it a habit to literally label the topic as High, High-Medium, Medium-Low, or Low Priority. See chart below.

PRIORITY CHART	High Yield	Low Yield
Intensive	<b>High</b> - Begin review soon after learning subject w/ continual reinforcement	<b>Medium-Low</b> - Begin review a couple of months prior to test
Crammable	<b>High-Medium</b> - Begin review several months prior to test w/ continual reinforcement	<b>Low</b> - Begin review a couple of weeks or days prior to test

## DEVELOP AN ACTION PLAN

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### Schedule A Timetable

Time management is an important factor in being successful on the USMLE. Tailor your schedule around your goals and your available time following any exams. The following are some general guidelines when conceiving your timetable and schedule.

First, your objectives, must define your goals. Design the study schedule to not only meet those goals, but to be consistent with your medical school objectives, your vacation time, and your day-to-day lifestyle.

Determine the length of your USMLE timetable. Will you spread your studying throughout the year or will you do a concentrated 13-15 hour per day attack during the final weeks leading up to the exam? You will need to assess your past performance on exams such as the SAT or MCAT. We have provided a guideline below to help aid you in getting on track with your study plan.

- ❖ *One to Two Years Out* – As stated by the USMLE, a “**broadly based learning that establishes a strong general foundation of understanding of concepts and principles in basic sciences**”. During your medical education, we at JCESOM will instill in you the knowledge to provide a very stable groundwork for your USMLE tests. Every year, we are consistently finding ways to improve and our test scores serve as a witness. As such, USMLE preparation at this stage should be based on resurfacing and solidifying this groundwork. Some ways to do this include:

- Use and buy review/grid books early. Don't shop for review books late in the game, because you may need time to search out which review books work best for you.
  - Tutor other medical students.
  - Review prior year material in the subsequent year and during your breaks.
  - Begin compiling and organizing your class notes and information into binders.
  - Begin prioritizing information.
  - Attend problem-based sessions and clinical vignettes. This will get you accustomed to the type of questions you will encounter.
  - Use computer-based medical education software.
  - Get accustomed to vignette-style questions.
  - Talk to experienced medical students at JCESOM who have taken the USMLE. They will be a great measure for what you should concentrate on and what you should expect.
- ❖ *Several Months Out* – Before studying “hard-core” for the USMLE, schedule your test and make sure all applicable deadlines and requirements are met. Then, take a simulated USMLE exam. **Prepare for and perform this mock exam exactly like you would for the actual test, minus the “hardcore” studying.** Now, you know what to expect and how you will react to the environment. It is now time to start focusing your studying. Study based on your strengths/weaknesses and your “prioritized” topics. **Remember, study highly prioritized information first and “crammable” information last.**
- ❖ *One Week Out* – Below we have some helpful recommendations that will make your life easier and should be included in your action plan.
- Make sure that you have your CIN, driver's license, analog watch, and earplugs. Go ahead and place a bag at your door that will contain these items.
  - Visit the USMLE testing site. If you have to travel far, think about getting there the day before and staying at a nearby hotel.
  - Plan your route to the testing site and plan for traffic.
  - **Begin training your body to for the test, especially your sleeping habits.** This will ensure that you will get adequate sleep and that your mind will be trained to perform optimally during your testing time. In addition, begin thinking about breakfast.
  - Plan what you are going to do for lunch. Begin thinking what type of food helps you “perform”. For example, eating a super-fattening meal may not be conducive to staying awake.
  - Prepare what you are going to wear and have it ready. Make sure that it is comfortable and loose.
- ❖ *The Day Before* – Relax!!! Schedule a time to make sure that you have all the necessary items. **Do not study any new material.** If you just have to study, then quickly review short-term memory material prior to bed. But, **do not quiz yourself.** Schedule time for deep relaxation and don't panic. **Just accept that you will not know everything, however you are well prepared.** Don't underestimate yourself and think only positively during these scheduled relaxation sessions.

- ❖ *Morning of the Exam* – Schedule appropriate time to wake up and eat a normal breakfast. Plan sufficient time to get prepared and arrive at the testing site 30 minutes early (too early and you could increase your anxiety). Test out your area and the equipment to make sure that everything works and that you are comfortable with the environment. You can request to be reseated. Prior to the test, take a few minutes to breathe deeply and relax. Finally, schedule out what you will be doing during your breaks. Some students suggest reviewing “theme” topics as you will have ample time to eat lunch.
- ❖ *After the Test* – Relax and have fun. Don’t beat yourself up no matter what. You probably did better than you think and it wouldn’t be the end of the world if you failed.

## Attack

Once you use the guidelines provided above and have made a personalized action plan you will need to execute it. The three most common reasons for failure to attack is:

- A lack of motivation.
- Insufficient planning for the unexpected.
- Burn-out.

As such, adequate time with self-reflection and the use of smaller attainable goals are effective tools. Rather than setting a goal to read a whole review book, you may want to set a goal for reading a chapter. We do caution that if you use this tactic you will have to begin your USMLE preparation earlier. If you still feel that you suffer from a lack of motivation. You should confidentially speak to someone at the Office of Student Affairs.

As for insufficient planning and burn-out, the best way to avoid this is by **not allowing the USMLE to consume your whole life** and to place ample emergency and relaxation time in your schedule.

## Assess Your Plan Routinely

Once you have a completed action plan, realize that it requires constant reassessment. If by the end of the week you have not completed the chapter in the review book as you have planned, it is time to reassess whether you are not giving yourself enough review time. However, if you find that you are ahead of schedule, be wary of increasing your USMLE study time as that may serve as a recipe for “burn-out”. **Remember that you want a non-stressful action plan that you can and will stick to religiously.**

## RESOURCES

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### MU JCESOM USMLE Board Review Course Information:

- 17 day course
- 119 lecture hours
- 8am - 4pm, Monday - Friday
- Over 20 award-winning faculty with expertise in USMLE Review

## Lecture Topics

- Anatomy (6 lecture hours)
- Neuroanatomy (5 lecture hours)
- Embryology (4 lecture hours)
- Dermatology (2 lecture hours)
- Biochemistry (18 lecture hours)
- Physiology (21 lecture hours)
- Microbiology (8 lecture hours)
- Pathology (19 lecture hours)
- Immunology (4 lecture hours)
- Pharmacology (21 lecture hours)
- Epidemiology (3 lecture hours)
- Behavioral Medicine (3 lecture hours)
- Ethics (2 lecture hours)
- High Yield Topics (3 lecture hours)

### **Other MU JCESOM Resources**

An online resource is available on the MU JCESOM site with review material for all the Steps:

- **Sample Step One Questions with Answers**
- **Board Review PowerPoint Presentations**
- **Clinical Vignettes**
- **Buzz Words**
- **PowerPoint Quizzes**
- **Marshall Step One Question Bank**
- **Marshall Step One Simulated Examination**

**Go to <http://musom.marshall.edu/usmle/>**

**For additional information**, please contact Aaron McGuffin, MD, Board Review Coordinator, [mcguffi3@marshall.edu](mailto:mcguffi3@marshall.edu), 304/691-1743 or 877/691-1600 ext. 1743

### **Books**

#### ❖ Comprehensive Review Books

1. NMS Review for USMLE-STEP I. Lazo, Lippincott Williams & Wilkins, HIGHLY RECOMMENDED.
2. Pathophysiology for the Boards & Wards USMLE, Step I. Ayala, Blackwell, 2003.
3. Step Up for the Boards, A High Yield System-based Review for USMLE Step I. Mehta, Lippincott, Williams & Wilkins, 2003.
4. First Aid for the USMLE Step I. Appleton & Lange, The McGraw Hill Companies, 2006. ESSENTIALLY MANDATORY!!!

#### ❖ Anatomy

1. Underground Clinical Vignettes: Anatomy. Bhushan, Blackwell Science, 2002.

2. High-Yield Embryology. Dudek, Lippincott Williams & Wilkins, 2000. Excellent review.
3. High-Yield Neuroanatomy Fix. Lippincott Williams & Wilkins, 1999. Good overall review.
4. Rapid Review: Gross and Developmental Anatomy, Moore, Mosby, 2002.
5. USMLE Road Map: Gross Anatomy, White, McGraw-Hill, 2003.
6. USMLE Road Map: Neuroscience, White, McGraw-Hill, 2004

❖ Behavioral Science

1. High Yield Behavioral Science Fadem. Lippincott, Williams & Wilkins, 2001.
2. BRS Behavioral Science Fadem. Lippincott, Williams & Wilkins, 1999. RECOMMENDED.
3. Under ground Clinical Vignettes: Behavioral Science Bhushan Blackwell Science, 2002.
4. Rapid Review: Behavioral Science, Stevens Mosby, 2004.

❖ Biochemistry

1. Underground Clinical Vignettes: Biochemistry, Bhushan Blackwell Science, 2002.
2. Lippincott's Illustrated Reviews: Biochemistry, Champe. Lippincott, Williams & Wilkins, 1994.
3. Rapid Review Biochemistry, Palley Mosby, 2003.
4. BRS Biochemistry Marks. Lippincott, Williams & Wilkins, 1998. High yield source for integrating pathways.
5. High-Yield Biochemistry, Wilcox. Lippincott, Williams & Wilkins, 2003.

❖ Genetics

1. BRS Pathology Schneider. Lippincott Williams & Wilkins, 1993. GENETICS IS NOT HIGHLY COVERED. BRS IS USUALLY SUFFICIENT.

❖ Histology

1. First Aid for the USMLE Step I Bhushan. McGraw-Hill, 2002. HISTOLOGY IS NOT HIGHLY COVERED. FIRST AID IS USUALLY SUFFICIENT.

❖ Microbiology

1. Underground Clinical Vignettes: Microbiology, Bhushan. Blackwell Science, Vol. I & II, 2002.
2. Clinical Microbiology Made Ridiculously Simple, Gladwin. MedMaster, 2003. RECOMMENDED, HIGH YIELD.
3. Rapid Review: Microbiology & Immunology, Rosenthal Mosby, 2002.
4. Medical Microbiology & Immunology: Examination and Board Review, Leveinson. McGraw-Hill, 2001.

❖ Pathology

1. Board Review Series, Pathology Schneider. Lippincott Williams & Wilkins, 2001. HIGHLY RECOMMENDED FOR REVIEW OF ALL MAJOR DISEASES.
2. Underground Clinical Vignettes: Pathophysiology Bhushan. Blackwell Science, Vol. I, II, III, 1999.
3. Robbins Review of Pathology Klatt. W.B. Sanders, 2000.
4. Lange Flashcards: Pathology, Baron McGraw Hill, 2004.

❖ Pharmacology

1. Pharmacology for Boards & Wards, Ayala, Blackwell Science, 2002.
2. Lippincott's Illustrated Reviews: Pharmacology Harvey. Lippincott Williams & Wilkins, 2000.
3. Katzung and Trevor's Pharmacology: Examination and Board Review Trevor. McGraw-Hill, 2002.
4. Pharm Cards: A Review for Medical Students, Johannsen, Lippincott Williams & Wilkins, 2002.
5. 5. Underground Clinical Vignettes: Pharmacology Bhushan. Blackwell Science, 1999.
6. Clinical Pharmacology Made Ridiculously Simple, Olson. MedMaster, 2001.

❖ Physiology

1. BRS Physiology, Costanzo. Lippincott Williams & Wilkins, 2003. Glowing student recommendations
2. Stars Physiology, Costanzo. W.B. Saunders, 2002
3. BRS Physiology Cases and Problems, Costanzo, Lippincott Williams & Wilkins, 2001
4. Pathophysiology for the Boards and Wards, Ayala, Blackwell Series, 2001 - RECOMMENDED.
5. USMLE Road Map: Physiology, Pasley. McGraw Hill, 2003. 6. Color Atlas of Physiology, Despopoulos. Thieme 2002.

❖ Psychiatry/Public Health

1. High Yield Behavioral Science; It's all you need!

❖ Question Books

1. Clinical Microbiology Made Ridiculously Simple, 2nd Ed. + Dr. Sharon's Immuno Review; HIGHLY RECOMMENDED
2. NMS Review for USMLE Step I, 5th Ed. HIGHLY RECOMMENDED

❖ Others

1. High Yield Internal Medicine. RECOMMENDED FOR SYSTEMS (SUBJECTS) METHOD OF STUDYING

### Computer Resources

1. USMLE Step I Tutorial & 150 sample questions available on [www.usmle.org](http://www.usmle.org). This can be downloaded.

2. Q-Bank, Kaplan on-line question bank • 1,000+ questions • annotated answers • visit [www.kaplan.com](http://www.kaplan.com) for information on purchasing. HIGHLY RECOMMENDED BY STUDENTS
3. NBME tutorial [www.nbme.org](http://www.nbme.org)
4. NBME Self-Assessment [www.nbme.org](http://www.nbme.org)

### **Internet Resources**

1. Kaplan Medical (Qbank), Kaplan [www.kaplanmedical.com](http://www.kaplanmedical.com)
2. The Pathology Guy, Friedlander [www.pathguy.com](http://www.pathguy.com)
3. Prep for USMLE: [www.prep4usmle.com/step1](http://www.prep4usmle.com/step1)
4. WebPath: The Internet Pathology Laboratory at University of Utah: <http://www-medlib.med.utah.edu/WebPath/webpath.html>
5. Digital Anatomist Interactive Atlases at University of Washington [www9.biostr.Washington.edu/da.html](http://www9.biostr.Washington.edu/da.html)
6. MedicalPharmacology, Gordon [www.kumc.edu/research/medicine/pharmacology/mgordon/learning/htm](http://www.kumc.edu/research/medicine/pharmacology/mgordon/learning/htm)
7. Introduction to Clinical Microbiology <http://medic.med.uth.tmc.edu/path/00001450.htm>
8. NBME web site: [www.nbme.org](http://www.nbme.org)
9. Medschool.com: [www.medschool.com](http://www.medschool.com)
10. Van Houten's Clinical Anatomy: [www.bu.edu/anatomy](http://www.bu.edu/anatomy)
11. Gold Standard Board Prep: [www.boardprep.net](http://www.boardprep.net)

### **Other**

1. Prometric Test Center: [www.prometric.com](http://www.prometric.com)
2. Kaplan Testing Centers: [www.kaptest.com](http://www.kaptest.com)
3. Princeton Review: [www.princetonreview.com/](http://www.princetonreview.com/)
4. Falcon Review: [www.FalconReviews.com](http://www.FalconReviews.com)
5. PassProgram: [www.pasprog.micronpcweb.com](http://www.pasprog.micronpcweb.com)