Recommendations and Resources for Enhanced Performance on NBME Subject or “Shelf” Exams

The intent of this document is to provide you tips for studying during your clinical and community clerkships rotations as well as to provide you with a variety of options and resources to help you achieve your academic goals. The information in this document represents a summary of recommendations and resources culled from the NBME subject examination websites, CMU College of Medicine students, handbooks and websites developed by colleges of medicine, and more. Please contact the Director of Academic Success at CMEDAcademicSuccess@groups.cmich.edu with any questions and/or to suggest additional resources.

CONTENTS

<table>
<thead>
<tr>
<th>Study Tips and Resources for Busy Rotations</th>
<th>2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Internal Medicine</td>
<td>4</td>
</tr>
<tr>
<td>Shelf: Medicine</td>
<td>4</td>
</tr>
<tr>
<td>Obstetrics &amp; Gynecology</td>
<td>5</td>
</tr>
<tr>
<td>Shelf: obstetrics &amp; gynecology</td>
<td>5</td>
</tr>
<tr>
<td>Pediatrics</td>
<td>6</td>
</tr>
<tr>
<td>Shelf: Pediatrics</td>
<td>6</td>
</tr>
<tr>
<td>Psychiatry</td>
<td>7</td>
</tr>
<tr>
<td>Shelf: Psychiatry</td>
<td>7</td>
</tr>
<tr>
<td>surgery</td>
<td>8</td>
</tr>
<tr>
<td>Shelf: Surgery</td>
<td>8</td>
</tr>
<tr>
<td>Comprehensive Community Clerkship</td>
<td>9</td>
</tr>
<tr>
<td>Shelf: Family Medicine Modular</td>
<td>9</td>
</tr>
<tr>
<td>Sub-Internships</td>
<td>10</td>
</tr>
<tr>
<td>Medicine Sub-internship</td>
<td>10</td>
</tr>
<tr>
<td>Shelf: Internal Medicine ADVANCED CLINICAL</td>
<td>10</td>
</tr>
<tr>
<td>Emergency Medicine Sub-Internship</td>
<td>11</td>
</tr>
<tr>
<td>Shelf: emergency Medicine ADVANCED CLINICAL</td>
<td>11</td>
</tr>
<tr>
<td>References</td>
<td>12</td>
</tr>
</tbody>
</table>

Note: Academic Success does not endorse any commercial products, processes, services, or programs. The information provided in this document is intended for general, summary purposes only.
STUDY TIPS AND RESOURCES FOR BUSY ROTATIONS

To assist you in meeting your goals for shelf exam scores, consider the recommendations below:

1. **Understand how you will be assessed.**
   a. **IMPORTANT:** READ THE COURSE SYLLABUS IN DETAIL FOR EACH ROTATION. ASK FOR GUIDANCE RELATED TO UTILIZATION OF REQUIRED AND RECOMMENDED RESOURCES, AS RELATED TO SHELF EXAMS, IF NEEDED.
   
   b. Understand the exam format. Visit NBME Subject Examinations to view the content outline for your specific exam. You can also preview and test yourself on sample items contained within the NBME Subject Examination’s Content Outlines and Sample Items document. Within this document, you’ll find approximately 20 sample questions and an answer key.

2. **Begin review for the shelf exam on the first day of rotation.**
   a. While it may be tempting to delay the start of your preparation – don’t. You may find you need additional time to review the material and study it effectively.
   b. Be proactive in asking for learning or study strategy support from your peers, Clerkship Directors, OSA, or Academic Success, as applicable.

3. **Create a flexible study plan utilizing smaller blocks of time for study activities.**
   a. Create a plan that allows you to review all concepts identified in the shelf exam content outline.
   b. Create a regular time daily for at least one or more of the following: reading, making notes or study tools, self-testing, or reviewing questions.
   c. Organize your study plan to include time to revisit notes and work randomized qbank blocks of previously studied concepts.
   d. Most experts and medical student recommend working an average of 20 – 30 questions a day. Many medical student utilized UWorld for Step 2 CK questions alongside other rotation resources and question sources/banks.
   e. Revisit the Step 1 Method book, *A Step by Step Guide to Success on the USMLE Step 1 Exam*, specifically chapters 4, 5, and 6, which review strategies for working questions and test taking that are transferrable to shelf and Step 2 style questions.
   f. Schedule or simulate a practice exam halfway through your clerkship rotation to identify strengths and weaknesses and to help you refine your study plan.
   g. Be ready to break down your study plans into smaller chunks of time (e.g., 15 – 30 minutes).
   h. Implement the Pomodoro Technique to take advantage of 25 – 35 minute blocks of time.
   i. When you are pressed for time, work on a few Qbank questions or use patient encounters as study opportunities.
   j. Download or carry copies of reading material (e.g., chapters or articles).
   k. Experiment with online flashcard programs and/or work questions on your phone.
   l. Take advantage of down time and/or combine activities (e.g., listen to a podcast on content or review flashcards, while walking or waiting for rounds).
4. Reflect on every patient a learning and study opportunity.
   a. Read actively about your current patients. For example, ask yourself the questions below, as applicable:
      i. What are the symptoms of the disease?
      ii. What are the signs of the disease?
      iii. What is the differential diagnosis?
      iv. How are those diagnoses differentiated from one another?
      v. How do you work-up or evaluate the disease?
      vi. What test(s) are available to confirm the diagnosis?
      vii. What are the treatment options? First step? Next step?
      viii. What is the prognosis?
      ix. What is the pathogenesis?
   b. During rounds or whenever possible, ask questions (e.g., Why this drug as opposed to X? Why did you perform or order this exam in this situation? Can you explain why you are doing this?). Alternatively, ask yourself, “How might this patient case be written as an exam question?”

5. Enhance your test-taking strategies.
   a. Stay positive. Studies have shown that student performance on NBME subject examinations improves with increasing clerkship experiences.
   a. During the exam, read the question before the vignette. This will help you focus on relevant information in the vignette (Desai & Katta, 2007).
   b. Pace yourself during the exam and manage your time. If you are spending too much time on one question, skip it and come back to it. If you’re still not sure, make an educated guess and then move on. Try to avoid becoming emotionally engaged or frustrated.

ADDITIONAL RESOURCES

- NBME Subject Examinations. (Visit this website for access to content outlines for “shelf” or subject examinations in the clinical science disciplines and more.)
- Subject Examinations Content Outlines and Sample Items by the NBME (2016). (Visit this guide for information and sample questions for basic sciences, clinical sciences, advanced clinicals and comprehensive examinations.)
- Studying for Third Year NBME Shelf Exams by Ben White (This blog, updated in 2018, offers recommendations for resources and question banks.)
- General Study Tips from Students and Professors, Albert Einstein College of Medicine (These study tips provide recommendations for resources, qbanks, etc., for each clerkship rotation.)
- Med School Tutors offers a series of blogs focused on different shelf exams. Visit Med School Tutors to access.
- Don’t Fall off the Shelf: Balancing Third Year Rotations with Exam Studying by Nick Lunig. (This blog provides some basic tips for thriving during your rotations, including creating a flexible schedule, identifying weekly tasks, identifying resources, and when to leave a resource.)
The exam will be the Clinical Science: Medicine exam. You can find sample items here. There are NBME self-assessments for this shelf exam (medicine) available, if you wanted to experiment with a practice test. There is one available for the Medicine shelf. You can order the practice exam just like you did for Step 1 through the NBME Self-Assessment site: http://www.nbme.org/Students/sas/masteryseries.html. These practice tests are 50 items and all forms provide expanded feedback.

IMPORTANT: PLEASE REVIEW INTERNAL MEDICINE CLERKSHIP REQUIRED AND RECOMMENDED READING MATERIALS IN THE SYLLABUS.

BOOKS RECOMMENDED BY MEDICAL STUDENTS
- Current Diagnosis and Treatment in Medicine by Lange
- Master the Boards for Step 2
- Pocket Medicine by Massachusetts General Hospital

QBANKS AND PRACTICE TESTS
- Board Vitals, available through the CMU CoM Medical Library Services
- Case Files, Internal Medicine – Lange
- IM Essentials: A Medical Knowledge Self-Assessment Program (MKSAP) for Students Questions, Editors: Philip A. Masters, MD, FACP, Senior Physician Educator, American College of Physicians, Editor-in-Chief, be sure to order the student version, not resident version, work to complete a minimum of 10 per night.
- USMLE Easy, use “Institutional” sign up, available through the CMU CoM Medical Library Services
  - Select USMLE Easy Step 2 CK > Create your own quiz > create practice or test > select “Traditional” tab > Internal Medicine
- UWorld: Review all IM questions

RESOURCES
- Access Medicine
- Chest X-ray
- Diagnosaurus
- EKG
- Internal Medicine Clerkship Review by Emily Ramahi, UT Health Science Center School of Medicine (video and PPT)
- Medscape
- OnlineMedEd
- Up to Date
STUDY STRATEGIES

- How to Study for the NBME Internal Medicine Shelf Exam (2013)
- What are the three best resources available for Internal Medicine shelf Exam Prep? (2014)

OBSTETRICS & GYNECOLOGY

SHELF: OBSTETRICS & GYNECOLOGY

- The exam will be the Clinical Science: Obstetrics & Gynecology
- You can find sample items here.
- There are NBME self-assessments for this shelf exam available, if you wanted to experiment with a practice test. There is one available for the Ob/Gyn shelf. You can order the practice exam just like you did for Step 1 through the NBME Self-Assessment site: http://www.nbme.org/Students/sas/masteryseries.html. These practice tests are 50 items and all forms provide expanded feedback.

IMPORTANT: REVIEW OBSTETRICS & GYNECOLOGY CLERKSHIP REQUIRED AND RECOMMENDED READING MATERIALS IN THE SYLLABUS.

BOOKS RECOMMENDED BY MEDICAL STUDENTS

- Blue Prints
- First Aid for OB/GYN Clerkship
- Master the Boards Step 3

QBANKS AND PRACTICE TESTS

- APGO questions, if you miss more than >70% in a given set, repeat the set again.
- Board Vitals, available through the CMU CoM Medical Library Services
- USMLE Easy, use “Institutional” sign up, available through the CMU CoM Medical Library Services
  - Select USMLE Easy Step 2 CK > Create your own quiz > create practice or test > select “Traditional” tab > Gynecology, Obstetrics
- UWorld: Review Ob/GYN questions twice, if possible

RESOURCES

- OnlineMedEd

STUDY STRATEGIES

- Know Thy Shelf: OB/GYN: Blog by Med School Tutors which offers tips, including knowing foundational material
SHELF: PEDIATRICS

- The exam will be the Clinical Science: Pediatrics
- You can find sample items here.
- There are NBME self-assessments for this shelf exam available, if you wanted to experiment with a practice test. There is one available for the Pediatrics shelf. You can order the practice exam just like you did for Step 1 through the NBME Self-Assessment site: http://www.nbme.org/Students/sas/masteryseries.html. These practice tests are 50 items and all forms provide expanded feedback.

IMPORTANT: REVIEW PEDIATRICS CLERKSHIP REQUIRED AND RECOMMENDED READING MATERIALS IN THE SYLLABUS.

BOOKS RECOMMENDED BY MEDICAL STUDENTS

- BRS
- Case Files Pediatrics
- Master the Boards Step 2
- Pediatric Blueprints

QBANKS AND PRACTICE TESTS

- Board Vitals, available through the CMU CoM Medical Library Services
- PreTest Pediatrics, available through the CMU CoM Medical Library Services
- USMLE Easy, use “Institutional” sign up, available through the CMU CoM Medical Library Services
  - Select USMLE Easy Step 2 CK > Create your own quiz > create practice or test > select “Traditional” tab > Pediatrics
- UWorld

RESOURCES

- OnlineMedEd
- Pediatrics Clerkship Review by Emily Ramahi, UT Health Science Center School of Medicine (video and PPT)
**PSYCHIATRY**

**SHELF: PSYCHIATRY**

- The exam will be the [Clinical Science: Psychiatry](#).
- You can find sample items [here](#).
- There are NBME self-assessments for this shelf exam available, if you wanted to experiment with a practice test. There is one available for the Psychiatry shelf. You can order the practice exam just like you did for Step 1 through the NBME Self-Assessment site: [http://www.nbme.org/Students/sas/masteryseries.html](http://www.nbme.org/Students/sas/masteryseries.html). These practice tests are 50 items and all forms provide expanded feedback.

---

**PSYCHIATRY CLERKSHIP SUGGESTED READING MATERIALS (SYLLABUS SUPPLEMENTAL HANDOUT)**

**IMPORTANT: CLERKSHIP DIRECTORS RECOMMEND YOU REVIEW THE READING MATERIALS OUTLINED IN THE SYLLABUS SUPPLEMENTAL HANDOUT. THE RESOURCES LISTED BELOW MAY BE HELPFUL, BUT WILL NOT PROVIDE YOU WITH A DEEP, COMPREHENSIVE UNDERSTANDING OF REQUIRED LEARNING OBJECTIVES.**

**BOOKS RECOMMENDED BY MEDICAL STUDENTS**

- Case Files for Psychiatry
- First Aid for Step 1 (drug side effects)
- First Aid for USMLE Step 2 CK
- First Aid Psychiatry Clerkship
- Master the Boards Step 2

**QBANKS AND PRACTICE TESTS**

- [Board Vitals](#), available through the CMU CoM Medical Library Services
- Lange Q & A Psychiatry
- Psychiatry Pretest Self-Assessment and Review
- [USMLE Easy](#), use “Institutional” sign up, available through the CMU CoM Medical Library Services
  - Select USMLE Easy Step 2 CK > Create your own quiz > create practice or test > select “Traditional” tab > Psychiatry
- [UWorld](#)

**RESOURCES**

- [Know Thy Shelf: Psych!](#) Blog by Med School Tutors that offers tips for reading exam questions, making diagnoses, “knowing normal”, and pharmacology.
- [Psychiatry Clerkship Review](#) by Emily Ramahi, UT Health Science Center School of Medicine (video and PPT)
- PubMed
- Up to Date
- [OnlineMedEd](#)
SURGERY

SHELF: SURGERY

- The exam will be the Clinical Science: Surgery
- You can find sample items here.
- There are NBME self-assessments for this shelf exam available, if you wanted to experiment with a practice test. There is one available for the Surgery shelf. You can order the practice exam just like you did for Step 1 through the NBME Self-Assessment site: http://www.nbme.org/Students/sas/masteryseries.html. These practice tests are 50 items and all forms provide expanded feedback.

IMPORTANT: PLEASE REVIEW SURGERY CLERKSHIP REQUIRED AND RECOMMENDED READING MATERIALS IN THE SYLLABUS.

BOOKS RECOMMENDED BY MEDICAL STUDENTS

- Appleton & Lange Review of Surgery (do as many questions as possible)
- Dr. Pestana’s surgical notes, review multiple times
- Essentials of General Surgery
- First Aid for Surgery
- Kaplan Surgery Notes
- Master the Boards Step 2
- Review emergency content in Internal Medicine or Step 2 prep resources
- Step Up to Surgery
- Surgical Recall (use to prep for surgeries)

QBANKS AND PRACTICE TESTS

- Board Vitals, available through the CMU CoM Medical Library Services
- Kaplan qbank Surgery (do as many questions as possible)
- PreTest Surgery, available through the CMU CoM Medical Library Services
- USMLE Easy, use “Institutional” sign up, available through the CMU CoM Medical Library Services
  - Select USMLE Easy Step 2 CK > Create your own quiz > create practice or test > select “Traditional” tab > Surgery, Internal Medicine, Family Medicine, Emergency Medicine
- UWorld: Review questions specific to surgery, there will be many medicine or IM questions, so if you can, add some qbank blocks of IM review.

RESOURCES

- General Study Tips from Students and Professors, Albert Einstein College of Medicine (These study tips provide recommendations for resources, qbanks, for each clerkship rotation.)
- OnlineMedEd
- Surgery Clerkship Review by Emily Ramahi, UT Health Science Center School of Medicine (video and PPT)
COMPREHENSIVE COMMUNITY CLERKSHIP

SHELF: FAMILY MEDICINE MODULAR

- The exam will be the Clinical Science: Family Medicine.
- You can find sample items here.
- There are NBME self-assessments for this shelf exam available, if you wanted to experiment with a practice test. There is one now available for the Family Medicine shelf. You can order the practice exam just like you did for Step 1 through the NBME Self-Assessment site: http://www.nbme.org/Students/sas/masteryseries.html. These practice tests are 50 items and all forms provide expanded feedback.

IMPORTANT: PLEASE REVIEW CCC REQUIRED AND RECOMMENDED READING MATERIALS IN THE SYLLABUS OR POSTED ONLINE.

BOOKS RECOMMENDED BY MEDICAL STUDENTS

- Step Up to Medicine (review Ambulatory and Derm sections)
- American Academy of Family Physicians Board review questions. You will have to become a member, and then search under board review. Note: The questions may be too advanced; however, some suggest that the explanations are valuable as study aids.
- Blueprints for IM (review non-acute outpatient topics).
- FMCases: http://www.med-u.org/fmcases

QBANKS AND PRACTICE TESTS

- Board Vitals, available through the CMU CoM Medical Library Services
- University of Virginia SoM Family Medicine Clerkship practice questions
- USMLE Easy, use “Institutional” sign up, available through the CMU CoM Medical Library Services
  - Select USMLE Easy Step 2 CK > Create your own quiz > create practice or test > select “Traditional” tab > Family Medicine
- UWorld: Review preventative section questions in Internal Medicine
- Other schools of medicine recommend Family Medicine Pre-test Assessment and Review by Knutson.

RESOURCES OR RECOMMENDATIONS

- Best Way to Study for the Family Medicine Shelf Exam
- Use patient encounters as study opportunities. Read or research as much as you can about their pertinent medical conditions.
SUB-INTERNSHIPS

MEDICINE SUB-INTERNSHIP

SHELF: INTERNAL MEDICINE ADVANCED CLINICAL

- The exam will be the Internal Medicine Advanced Clinical exam: [http://www.nbme.org/Schools/Subject-Exams/Subjects/med_intern.html](http://www.nbme.org/Schools/Subject-Exams/Subjects/med_intern.html)
- You can find sample items [here](http://www.nbme.org/Schools/Subject-Exams/Subjects/med_intern.html).
- There are NBME self-assessments for this shelf exam (medicine) available, if you wanted to experiment with a practice test. There is one available for the Medicine shelf. You can order the practice exam just like you did for Step 1 through the NBME Self-Assessment site: [http://www.nbme.org/Students/sas/masteryseries.html](http://www.nbme.org/Students/sas/masteryseries.html). These practice tests are 50 items and all forms provide expanded feedback.

IMPORTANT: PLEASE REVIEW INTERNAL MEDICINE ADVANCED CLINICAL CLERKSHIP REQUIRED AND RECOMMENDED READING MATERIALS IN THE SYLLABUS.

BOOKS RECOMMENDED BY MEDICAL STUDENTS

- Current Diagnosis and Treatment in Medicine by Lange
- Master the Boards for Step 2
- Pocket Medicine by Massachusetts General Hospital

QBANKS AND PRACTICE TESTS

- [Board Vitals](http://www.cmu.edu), available through the CMU CoM Medical Library Services offers an Internal Medicine practice exam with 551 questions.
- [Case Files, Internal Medicine – Lange](http://www.cmu.edu)
- [CMU Medical Education Partners residents recommend MKSAP and MedStudy questions for their in-training exam preparation](http://www.cmu.edu).
- [IM Essentials: A Medical Knowledge Self-Assessment Program (MKSAP) for Students Questions](http://www.cmu.edu), Editors: Philip A. Masters, MD, FACP, Senior Physician Educator, American College of Physicians, Editor-in-Chief, be sure to order the student version, not resident version, work to complete a minimum of 10 per night.
- [USMLE Easy](http://www.cmu.edu), use “Institutional” sign up, available through the CMU CoM Medical Library Services
  - Select USMLE Easy Step 2 CK > Create your own quiz > create practice or test > select “Traditional” tab > Internal Medicine
- UWorld: Review all IM questions

RESOURCES

- Modules: [http://www.med-u.org](http://www.med-u.org)
- EKG: [www.learnttheheart.com](http://www.learnttheheart.com)
- Up to Date
• Medscape
• Access Medicine
• Diagnosaurus
• Internal Medicine Clerkship Review by Emily Ramahi, UT Health Science Center School of Medicine (video and PPT)

STUDY STRATEGIES
• How to Study for the NBME Internal Medicine Shelf Exam (2013)
• What are the three best resources available for Internal Medicine shelf Exam Prep? (2014)
• High-Yield Tips for the Internal Medicine Shelf Exam (2014)

EMERGENCY MEDICINE SUB-INTERNSHIP

SHELF: EMERGENCY MEDICINE ADVANCED CLINICAL

• The exam will be the Emergency Medicine Advanced Clinical exam: http://www.nbme.org/Schools/Subjects/ace_emergmed.html
• You can find sample items here.
• There are NBME self-assessments for this shelf exam (emergency medicine) available, if you wanted to experiment with a practice test. You can order the practice exam just like you did for Step 1 through the NBME Self-Assessment site: http://www.nbme.org/Students/sas/masteryseries.html. These practice tests are approximately 50 items and all forms provide expanded feedback.

IMPORTANT: PLEASE REVIEW EMERGENCY MEDICINE ADVANCED CLINICAL CLERKSHIP REQUIRED AND RECOMMENDED READING MATERIALS IN THE SYLLABUS.

BOOKS RECOMMENDED BY MEDICAL STUDENTS

• Master the Boards USMLE Step 2 CK (Emergency Medicine and Surgery Chapters)
• Emergency Medicine Secrets
• Case Files: Emergency Medicine

Q BANKS AND PRACTICE TESTS

• SAEM (Society for Academic Emergency Medicine)
• SAEM Practice Tests: http://saemtests.f648.net/
• Emergency Medicine PreTest Self-Assessment and Review
• USMLE Easy, use “Institutional” sign up, available through the CMU CoM Medical Library Services
  o Select USMLE Easy Step 2 CK > Create your own quiz > create practice or test > select “Traditional” tab > Emergency Medicine
• UWorld for the USMLE Step 2 CK: Review all EM questions
RESOURCES

- The Flipped EM Classroom Videos

COM STUDENT RECOMMENDATIONS

- Spend extra time on questions on trauma and cardiovascular emergencies (e.g., heart attack and cardiac arrest).
- Create one-page review guides or algorithms of the most relevant treatment processes/procedures. See sample developed by Morrison Steel, Class of 2018, below.

![Sample review guide](image)

- Some students also utilized Rosh Review.

REFERENCES

- Noto, F. (2016, November 1). M3 Shelf Help: General Overview. Webinar presented by Kaplan Medical. (Note: Dr. Frank Noto is the Internal Medicine Clerkship Site Director, Icahn School of Medicine Mount Sinai.)

*Created by Dr. Eron Drake (2017) and updated by Amanda Swafford (2019)*

Academic Success, Office of Medical Education, College of Medicine, Central Michigan University