

COMLEX-USA

**A Comprehensive
Guide to
Preparing For
Your Medical
Board
Examinations**

USMLE



Table of Contents

OVERVIEW	4
WHAT IS THE PURPOSE OF MEDICAL BOARD EXAMINATIONS?	4
WHEN ARE THE EXAMS TAKEN?	4
WHY IS IT IMPORTANT THAT YOU TAKE THE EXAMS SERIOUSLY AND DO YOUR BEST?	4
WHAT IS THE BEST PREDICTOR OF BOARD PERFORMANCE?	4
WHAT ARE THE MSUCOM POLICIES REGARDING COMLEX?	4
COMLEX LEVEL 1	5
DESCRIPTION OF THE EXAM	5
FORMAT AND TIMING OF THE EXAM	5
SCORING	6
TEST BLUEPRINT	6
WHAT RESOURCES ARE AVAILABLE FOR COMLEX LEVEL 1 PREPARATION?	6
COMMERCIAL REVIEW COURSES: PROS AND CONS	6
REVIEW BOOKS	7
QUESTION BANKS (Q-BANKS)	7
SEMESTER-BY-SEMESTER TIMELINE FOR PREPARATION	8
WHEN SHOULD YOU TAKE COMLEX LEVEL 1?	8
HOW SHOULD YOU PREPARE FOR COMLEX LEVEL 1?	8
SELF-ASSESSMENT	9
CREATING A STUDY SCHEDULE	10
STUDYING FOR COMLEX	10
TEST-TAKING TIPS	11
RECOMMENDATIONS FROM MSUCOM STUDENTS	11
ADDITIONAL USEFUL RESOURCES TO GUIDE YOUR PREPARATION	12
KEEP ANXIETY AT BAY	12
TAKE CARE OF YOURSELF WHILE PREPARING	12
WHAT SHOULD YOU DO IF YOU FAIL COMLEX LEVEL 1?	13
COMLEX LEVEL 1 FAQ	13
SHOULD YOU TAKE USMLE STEP 1?	15
ARE LICENSURE REQUIREMENTS DIFFERENT FOR CANADIAN STUDENTS?	16
COMLEX LEVEL 2-CE	16
DESCRIPTION OF THE EXAM	16
TEST BLUEPRINT	17
WHEN SHOULD YOU TAKE COMLEX LEVEL 2-CE?	17
HOW SHOULD YOU PREPARE FOR LEVEL 2-CE?	17
RECOMMENDED RESOURCES FOR LEVEL 2-CE	18
WHAT SHOULD YOU DO IF YOU FAIL?	19

COMLEX LEVEL 2-PE	19
DESCRIPTION OF THE EXAM	19
WHERE TO LEARN ABOUT THE LEVEL 2-PE	19
HOW IS THE COMLEX LEVEL 2-PE GRADED?	19
WHY DO STUDENTS FAIL THE COMLEX LEVEL 2-PE?	20
FAILURE IS A “RED FLAG”	20
WHAT SUCCESSFUL STUDENTS DO	20
WHEN SHOULD YOU TAKE LEVEL 2-PE?	20
HOW SHOULD YOU PREPARE FOR LEVEL 2-PE?	20
WHAT SHOULD YOU DO IF YOU FAIL?	21
WEB RESOURCES	21
COLLEGE RESOURCES	21
OTHER CITED WORKS	22

Overview

What Is the Purpose of Medical Board Examinations?

First and foremost, the purpose of board examinations is to protect the public, especially patients, from incompetent physicians by assessing a standard minimal level of competence in the knowledge, skills, and attitudes of physicians-in-training.

When Are the Exams Taken?

Both COMLEX and USMLE are exam sequences (COMLEX = 3 Levels; USMLE = 3 Steps), with two levels/steps taken during medical school, and the third taken after graduation, usually at or near the end of the first post-graduate year (PGY-1).

MSUCOM *requires* all students to take COMLEX Level 1 prior to entering the Clerkship, at the end of the 2nd year. Level 2 is then taken, at the student's discretion, at some point near the end of the 3rd year or early in the 4th year, generally upon completion of the core rotations. COMLEX Levels 1-3 must be taken in sequence and each level must be passed to be eligible to take the next level in the series. In contrast, USMLE Steps 1-3 can be taken out of sequence.

Why Is It Important That You Take the Exams Seriously and Do Your Best?

Passage of COMLEX Level 1, Level 2-CE, and Level 2-PE is a graduation requirement for all MSUCOM students. While a passing score of 400 is all that is required, MSUCOM students are encouraged to aim for above 500 (~50th percentile), preferably much higher, to better position themselves for residency. Furthermore, low scores can pose difficulties down the road. For example, if named in a malpractice suit, during a trial, an attorney for the plaintiff will not hesitate to raise the issue of a defendant's poor or below average exam scores.

COMLEX Level 1 scores used to screen residency applicants

Although the primary intent of board examinations is to protect the public, residency programs are increasingly using board scores to screen applicants. Many residency programs have "cut scores" below which they will not consider an applicant for an interview; therefore, performance on COMLEX can be a limiting factor in obtaining a desired residency position. The extent to which residency programs utilize board scores varies. To best position oneself to be a competitive candidate, it is important to obtain as high a score as possible.

What Is the Best Predictor of Board Performance?

The best predictor of COMLEX Level 1 performance is MSUCOM course performance. Students below the 20th percentile in their overall class rank have a substantially elevated risk for not passing their COMLEX Level 1 exam on the first attempt (Sefcik et al., 2012). This MSUCOM finding is consistent with other published research (Baker et al., 2000; Coumarbatch et al., 2010). ***The vast majority of MSUCOM students who fail COMLEX Level 1 are below the 20th percentile in their overall class ranking.*** Other risk factors include poor past performance on other standardized tests (e.g., MCAT); obtaining a poor or borderline score on the COMSAE Phase 1 (the NBOME practice exam for Level 1) within one month of test date; underdeveloped study, time management, and test-taking skills; certain personality factors that influence learning; excessive test anxiety; and self-perception as a "bad standardized test taker."

What Are the MSUCOM Policies Regarding COMLEX?

In addition to the graduation requirement, MSUCOM has policies regarding when Level 1 is taken, consequences of failing, and how many attempts are allowed. For specific policy language pertaining to the COMLEX exams, please refer to the appropriate **MSUCOM Policy for Retention, Promotion, & Graduation**.

- Classes of 2016 & 2017 (see Sections 4.3.3, 6.2, 6.4, 7.0.2, & 11):
http://www.com.msu.edu/Students/Policies_and_Programs/class%20of%202017.pdf
- Classes of 2018+ (see Sections 1.a., 2.a. & b., 4.f., 10.a.iv., & Appendix 2):
http://www.com.msu.edu/Students/Policies_and_Programs/COSE%20Policy%20class%202018%20web.pdf

COMLEX Level 1

Description of the Exam

COMLEX stands for Comprehensive Osteopathic Medical Licensure Examination. According to NBOME, “The COMLEX-USA examination series is designed to assess the osteopathic medical knowledge and clinical skills considered essential for osteopathic generalist physicians to practice medicine” (NBOME BOI, 2014, p.7). Within that context, candidates are expected to employ osteopathic philosophy and principles to solve medical problems presented as clinical vignette style questions.

Exams are constructed from a blueprint that includes two dimensions. Dimension 1 is “The Patient Presentation.” Questions are posed as clinical vignettes of varying lengths that present different types of relevant patient and clinical information, including patient demographics, patient history, and pertinent findings (e.g., from physical exam, labs and/or imaging tests). Many questions include either radiographic or pathological images. Patient presentations are based on “high-frequency and/or high-impact health issues that osteopathic generalist physicians encounter in practice.”

Dimension 2 is “The Physician Task,” which specifies the steps that must be undertaken to solve the medical problems, such as understanding the underlying basic science, correctly interpreting history and physical exam findings, making a diagnosis, developing a treatment plan, etc. It should be noted that COMLEX Level 1 is specifically geared toward knowledge and clinical problem-solving skills that would be acquired during the first two years of medical school; hence, **70-85% of the exam questions require students to apply their “scientific understanding of health & disease mechanisms.”**

Most questions are stand-alone multiple-choice questions with a single best answer. There are a smaller number of series style questions in which two or more questions pertain to a single clinical scenario – for these, the response to each question is independent of the responses to the other questions in the series (i.e., if you miss the first one, you won’t necessarily miss the other(s)). There are also a few matching-style questions. MSUCOM students are exposed to many “board style” questions on their course exams.

For a thorough description of the exam, refer to the NBOME COMLEX Bulletin of Information, pp. 7-9: <https://www.nbome.org/docs/comlexBOI.pdf>.

Format and timing of the exam

COMLEX is given over a single 8-hour day divided into a 4-hour morning session and a 4-hour afternoon session separated by an optional 40-minute lunch period. The lunch break does not count against your time, but any unused time will not be added to your total exam time. Each 4-hour session is composed of 4 hour-long blocks of 50 questions (400 questions over the course of the day). The testing center provides one 10-minute mid-morning break and one 10-minute mid-afternoon break. These breaks are optional and do count against your total time. Students are often tempted to skip the breaks or lunch period and push through the exam non-stop, beginning to end, but this is not recommended. Students can advance through the 50-question blocks at their own pace; however, there is no ability to return to a previous block of questions after advancing to the next. It is highly recommended that students familiarize themselves with the testing format by exploring the resources provided on the NBOME website.

Very useful resources:

Test Day Tips: <http://www.nbome.org/docs/TestDayTips.pdf>

Video – Prometric: What to expect on test day: <http://vimeo.com/74953443>

COMLEX Practice Exam (use to gain familiarity with the computer-based testing): <http://www.nbome.org/comlex-cbt.asp?m=can#a7>

Scoring

According to NBOME (BOI, 2014, p. 35) exam score reports become available in the student's account at "View Score Report" approximately 4 to 6 weeks after the exam date. **Three-digit standard** scores for COMLEX Level 1 are reported with a mean of 500 and a minimal passing score of 400.

For more information on Score Interpretation: <http://www.nbome.org/score-interpretation.asp?m=can>

Test blueprint

Students are strongly encouraged to become familiar with the test blueprints published by NBOME on the website (<https://www.nbome.org/comlex-cbt.asp?m=can#a7>) and in the Bulletin of information on page 8, including the detailed blueprint information that can be found by following these links:

- Detailed outline of COMLEX-USA Dimension 1 categories: https://www.nbome.org/Dimension_1_outline.asp
- Detailed outline of COMLEX-USA Dimension 2 categories: https://www.nbome.org/Dimension_2_outline.asp

What Resources Are Available for COMLEX Level 1 Preparation?

There are too many COMLEX and USMLE resources for any one person to utilize; don't feel compelled to collect them all. Instead explore what's available and select those that cover the topics *you* need to learn in a way that grabs *your* attention. Listen to others' recommendations, but base your decisions on factors relevant to you, such as your learning style preferences (visual, verbal/written words, auditory) and weak content areas, etc. If a respected peer recommends some great pathology lectures, but you are not a good auditory learner, then that may not be the best resource for you. Attempting to study from too many sources can lead to bouncing around, lack of focus, and important topics falling through the cracks.

Commercial review courses: pros and cons

Will you be better served by taking a commercial review course or by independent study? The "pros" of self-study are that it's cheaper, flexible, and more likely to reflect your own "style." The "cons" are more complicated. Furthermore, your own style may be sub-optimal when preparing for board exams. One good clue—how was your academic performance during the first two years of medical school?

If you had poor academic performance or if you tend to be disorganized, have a hard time sticking to a schedule, or procrastinate, then a commercial review course is a viable option. On the other hand, if you are an organized, disciplined student who has earned strong grades, then independent study is more likely to be a good fit.

If you are leaning toward a commercial review course, take your time to select the right one. Some programs are fairly rigid in terms of when you can or cannot finish things; while other programs allow you work at your own pace, i.e., do more when you have time and do less when you are busy. Also, be aware that the best outcomes come from programs that devote some time to teaching test-taking skills. Evaluate carefully all programs and their features, and beware of scare tactics (e.g., if you buy today, you'll get this price, but if you wait until tomorrow, the price will double).

Boards Boot Camp <http://www.boardsbootcamp.com/>

Doctors in Training (DIT) <http://www.doctorsintraining.com>

Kaplan Test Prep <http://www.kaptest.com/Medical-Licensing/COMLEX/comlex-high-yield.html>

Northwestern Medical Review <http://northwesternmedicalreview.com/comlex.php> *(works best in Safari)*

Board Vitals (FREE with NETID) from MSU Libraries <http://libguides.lib.msu.edu/go.php?c=13215940>

Review books

Any/all review books for COMLEX Level 1 and USMLE Step 1 are potential candidates, and there are many to choose from. To reiterate a previous point, you need to select review books, or other resources such as flashcards, multimedia, etc., *that work for you*. Ask around and explore before you buy.

- First Aid for USMLE Step 1 – chock full of facts and mnemonics, **but** encourages rote memorization – should be supplemented (not a stand-alone resource)
- Step-Up to USMLE Step 1: A High-Yield, Systems-Based Review for the USMLE Step 1 – this is a First Aid competitor; explore both and pick the one that is more appealing to you
- USMLE Step 1 Secrets – case-based (clinical vignettes with Q&A) review
- First Aid Cases for the USMLE Step 1 – case-based (clinical vignettes with Q&A) review
- Rapid Review Series – basic science discipline reviews
- BRS (Board Review Series) – basic science discipline reviews
- Clinical Microbiology Made Ridiculously Simple
- Lippincott’s Illustrated Reviews – pharmacology, microbiology, biochemistry
- OMT Review by Savarese – the gold standard OMM review book (“the green book”)
- Pathoma – Fundamentals of Pathology – www.pathoma.com

Question banks (Q-banks)

<p style="text-align: center;">usmleRx www.usmle-rx.com</p>	<ul style="list-style-type: none"> • Companion to First Aid with explanations that tie directly to facts in <i>First Aid for the USMLE Step 1</i> • 2500+ USMLE-style questions written by high-scoring students • Tests are customizable by difficulty, general principles, and systems • Both tutorial and timed testing modes • Detailed performance feedback
<p style="text-align: center;">USMLEWORLD http://usmleworld.com</p>	<ul style="list-style-type: none"> • Assess student’s basic science knowledge with 2000+ high-quality, unrepeated multiple choice board-type questions by real-life physicians • Detailed explanation and educational objective for each question with excellent illustrations and charts that are easy to read and interpret • Board simulated interface software features (highlight, strike-out annotation, searchable lab values, calculator, mark/flag items etc.) • Customizable practice tests (create subject-specific, system-specific or combination tests in timed, untimed, tutorial and timed tutorial modes) • Suspend and resume a test at any time at your convenience with 24-hour account web access • Compare performance with other users; see which subjects you need to improve and view your cumulative performance outline • External references to medical journal abstracts • Improve time management skill by monitoring time per question • Mobile companion app available for iOS and Android based devices
<p style="text-align: center;">COMBANK http://www.combankmed.com</p>	<ul style="list-style-type: none"> • Assess strengths and weaknesses with analytics • Active learning methods to develop problem-solving skills • Additional OMM • Learn to think like a test-writer
<p style="text-align: center;">COMQUEST https://www.comquestmed.com</p>	<ul style="list-style-type: none"> • Targeted question bank authored/edited exclusively by licensed osteopathic physicians • Medical jurisprudence issues written by medical law and ethics experts • High-yield OMT topics written exclusively for COMLEX preparation • Customizable program menu - reinforce your learning in the right places • Easy tracking & comparison of results between yourself and colleagues • Premium-quality COMLEX programs endorsed nationwide by osteopathic medical school administrators

Example of one possible approach to selecting resources:

1. Select *either* First Aid *OR* Step-Up for a quick reference and high-yield facts, **and**
2. Select *either* USMLE Secrets *OR* First Aid Cases for a case-based presentation of information, **and**
3. Select a more detailed basic science review resource for your weakest subjects and/or Pathology, Physiology, Pharmacology, and Microbiology, **and**
4. Select an OMM/OMT review resource, **and**
5. Select one or two Q-banks

Semester-By-Semester Timeline for Preparation

What should you do during Semesters 1 & 2?	<ul style="list-style-type: none"> ✓ <i>Focus on your coursework</i> ✓ Actively seek to improve studying / learning, time management, & test-taking skills
What should you do during Semesters 3 – 5?	<ul style="list-style-type: none"> ✓ <i>Focus on your coursework</i> ✓ Continue to hone your studying / learning, time management, & test-taking skills ✓ Get organized ✓ Select and purchase your study resources and Q-banks ✓ Familiarize yourself with the COMLEX blueprint (https://www.nbome.org/comlex-cbt.asp?m=can#a7) ✓ Consider incorporating board review materials, such as First Aid, usmleRx, and/or Pathoma, into your course study
What should you do during Semester 6?	<ul style="list-style-type: none"> ✓ <i>Focus on your coursework</i> ✓ Meet with an Academic Advisor ✓ Schedule your test date ✓ Assess your baseline knowledge with COMSAE or a Q-bank practice test ✓ Develop a study schedule
What should you do during Semester 7?	<ul style="list-style-type: none"> ✓ Follow your study schedule; adjust as needed

When Should You Take COMLEX Level 1?

COMLEX Level 1 **must** be taken prior to entering the Clerkship rotations. Most students opt to take the exam during the **latter half of June**, following completion of the 2nd year coursework. Students are eligible to take it anytime from February through July 1, as long as it is taken prior to starting in the Base Hospital. Students are advised against taking it too early to “get it over with.” It is important to be as prepared as possible to minimize the risk of not passing on the first attempt.

How Should You Prepare for COMLEX Level 1?

Preparing for COMLEX is *project management 101*. Getting ready for the exam is a temporary endeavor that is bounded in time – it has a beginning and an end date. Successful preparation includes determining needs (e.g., what skills need to be developed?, what content needs to be learned?), setting goals, planning, identifying and managing resources, anticipating and mitigating obstacles, creating a realistic timeline with checkpoints, performing activities/tasks necessary to achieve the goals (e.g., studying material, doing practice questions), evaluating progress toward the goal (e.g., taking practice tests), making adjustments to the plan as needed, and maintaining motivation and commitment to the desired outcome (e.g., achieving a score over 500).

Avoid common mistakes when preparing for Level 1:

- **PASSIVE** study methods
- **INSUFFICIENT** practice with board-style questions
- **MEMORIZING** as opposed to understanding the material
- **INAPPROPRIATE** test day strategies
- **MISREADING** or misinterpreting questions

Self-assessment

An initial step to successful preparation is self-assessment (obtaining a performance baseline). This serves three useful purposes: (1) It will help you determine your study priorities (i.e., identify needs). By comparing your baseline assessment with the COMLEX Blueprint you can ensure that you spend an adequate amount of time on the “right” material. (2) It will help you to identify needed resources, such as purchasing review books that cover specific “weak” content areas (e.g., microbiology, pathology, or pharmacology). (3) Determining your baseline performance will allow you to better gauge whether or not your study plan is working. You should see an improvement in performance over time. This will allow you to make a more objective determination of progress.

COMSAE-Phase 1

COMSAE stands for Comprehensive Osteopathic Medical Self-Assessment Examination. These practice tests are provided by the National Board of Osteopathic Medical Examiners (NBOME) for use by students to gauge their knowledge and problem-solving skills and develop familiarity with the COMLEX format to aid in preparation for the real thing. Question banks, such as USMLE-Rx, USMLE World, COMBANK, or COMQUEST can also be used to self-assess baseline performance and progress over time.

The advantages of using COMSAE are (1) the makers of COMLEX developed it, (2) it represents a style and format that is very similar to the current version of COMLEX, and (3) the scores are reported in the same way as COMLEX. Disadvantages include limited feedback, cannot review missed questions, cost per version, and a limited number of different versions. Multiple versions are available for purchase at a cost of \$55 each. COMSAE Phase 1, like COMLEX Level 1, emphasizes scientific understanding. <http://www.nbome.org/comsae.asp>

Interpreting your results

Your COMSAE results (performance profile) will include a 3-digit score and a rating of your performance (poor, borderline, acceptable, good) in areas related to: Dimension 1: Patient Presentation and Dimension 2: Physician Task. Sample performance profile: <http://www.nbome.org/comsae-samples.asp>.

- Poor performance = score lower than 350
- Borderline performance = score 351 – 450
- Acceptable performance = score 451 – 550
- Good performance = score higher than 550

Using your results to guide your review

Whether you take COMSAE to obtain your baseline performance or take it closer to your actual test date, you can use your score to help guide your review.

- Look at the Test Blueprint: <http://www.nbome.org/comlex-cbt.asp?m=can>
- Compare *your* performance in each area with its relative weight on the Level 1 exam (% of questions).
- If your score is “poor” or “borderline” in areas with high percentages of Qs (such as “Patients with Presentations Related to Cognition, Behavior, Sensory and Central Nervous Systems, Substance Abuse, Visceral and Sensory Pain 28-38%”), consider these HIGH PRIORITY items for your review.
- Because the majority (70-85%) of COMLEX Qs test your knowledge of scientific mechanisms, if your score is “Poor” or “Borderline” in any basic science discipline (anatomy, physiology, biochemistry, microbiology, pathology, pharmacology, behavioral science, omm/opp), review that discipline thoroughly.

For COMSAE to be a reasonable predictor of COMLEX performance, it must be taken as a timed exam under simulated testing conditions (i.e., **not** working at a leisurely pace, pausing the exam, or looking up answers). NBOME reports that performance on COMSAE, when taken as a timed exam, is strongly correlated with COMLEX performance. **If you do not obtain a COMSAE score >400 within 10-14 days of your test date, contact an advisor in the MSUCOM Office of Academic and Career Guidance to determine your best course of action.**

Creating a study schedule

The next critical step in successful preparation is creating a realistic and detailed study schedule. Make a study schedule and stick to it, but also revise as necessary if the plan does not seem to be working, for example, if your scores on practice tests do not seem to be increasing over time or if you are unable to maintain the pace that you set for yourself.

CRAMFIGHTER
<http://cramfighter.com>

- A tool used to create a study schedule from study resources
- Specify study hours so you know exactly what to do EVERY day
- Flashcard Support

Studying for COMLEX

The key to mastering the material ultimately lies with learning it, both in terms of being able to recall detailed information, but also, perhaps more importantly, being able to *apply* the information to answer specific questions posed on the exam.

- Begin by LEARNING the material well the first time as you study for your course exams – try to avoid “cram and dump” study methods by adopting a “deep approach” to learning. Remember, preclinical academic performance is an important predictor of COMLEX Level 1 performance.
 - Improving long-term retention and recall:
http://www.com.msu.edu/Students/Academic_Guidance/long_term_retention_recall.pdf
 - How to study detailed information:
http://www.com.msu.edu/Students/Academic_Guidance/study%20detailed_info.pdf
- Develop your problem-solving and critical thinking skills alongside your content knowledge. COMLEX requires you to understand underlying principles and concepts so you can utilize your critical thinking skills to reason through the questions. COMLEX questions have a reputation for being more “vague” than USMLE—which really means that they are higher-order questions with a distinctly clinical focus—so a solid knowledge base is essential for success. There may be more than one *possible* answer, but *only one best* answer.
- First Aid, Sketchy Micro, and Pathoma are resources used for board prep, but they can also be incorporated into your study routine during your medical school coursework. Many students annotate First Aid with course-based information, thereby creating a customized COMLEX study aid.
- As you advance through your courses, you can also supplement your course materials with Q-bank questions (e.g., usmleRx). This will not only begin to build familiarity with board style questions, but also many students find it a useful approach for their courses. Your first priority, however, is to focus on course content. If you are struggling to stay caught up and learn the material presented in the course, do not be distracted by spending your limited time with board review materials.
- Study *smarter*, not longer. The quality of your study time is more important than the quantity. Spending 10 hours a day *passively* reading study guides or old notes is much less effective than spending half that amount of time in active study.
 - Explain concepts out loud to a study partner.
 - Create concept maps that center on a clinical presentation.
 - Do as many practice questions as you can. Doing practice questions allows you to apply the materials as opposed to just memorizing it.
 - When doing practice questions make sure you can explain why the right answers are right and the wrong answers are wrong. Analyze your results by trying to determine what went wrong.
 - If there are other study methods that work for you, use them – there’s no one right way. That said, don’t simply try to memorize facts.

Test-taking tips

- Develop your multiple-choice test-taking skills. Learn how to approach multiple-choice questions and get lots of PRACTICE. Some people seem to instinctively know how to answer multiple-choice questions correctly while others struggle. There are skills that you can learn to help you answer these kinds of test questions; for specific suggestions, please refer to “A Guide to Testing Smart on Multiple Choice Exams”: http://com.msu.edu/Students/Academic_Guidance/testing_smart.pdf
- Don’t make the mistake of avoiding practice questions until you “feel” you can get them right. Now is not the time for performance anxiety. Getting questions wrong will help you learn, especially if you pay attention to what you got wrong and why you got it wrong.
- Know how to approach vignette styled multiple choice questions:
 - **ASSEMBLE** key clues into a mental “snapshot” of the patient.
 - **DETERMINE** precisely what is being asked.
 - **TAKE** time to think, recall, and anticipate possible answers.
 - **COMPARE** the options to your anticipated answer.
 - **MARK** the option(s) that best match.
 - **RULE OUT** options that don’t account for all findings.
 - **SELECT** the best answer.
- Low performers on multiple-choice tests often focus on the answer choices rather than on the stem of the question. This is a very inefficient approach and one that tends to result in more mistakes. The answer is in the stem – read the stem carefully.

Recommendations from MSUCOM students

Student recommended resources

- Clinical Microbiology Made Ridiculously Simple
- COMBANK/COMQUEST
- PATHOMA = Fundamentals of Pathology
- PEAK/MSUCOM Bootcamp for the Boards with Dr. Sadasivan
- Doctors In Training (DIT)
- Online microbiology source called sketchymicro (a picture based mnemonic program)
- Use flash cards and mnemonics, look up definitions and read
- OMT Review (green book by Savarese)
- Use Q-Banks
- Lange Pharmacology flashcards
- KAPLAN review materials

Other student comments about COMLEX preparation

- Time Management is important! Utilize your time better.
- “Look at very last line of the question stem, which is where the actual question is. By doing so, you can begin guiding your mind down whichever path the question takes (i.e. diagnosis, drug of choice, adverse effects, etc.”
- “First time through, I did not spend enough time learning how to apply material to the COMLEX questions. Second time around, I focused more on questions, which allowed me to actually apply the material as opposed to just memorizing.”
- Notice what questions you get wrong, and then study that material and repeat those questions. It is important to know not only why the correct answer was correct, but why the others were wrong.
- “Study to learn, not for the test.”

Additional useful resources to guide your preparation

Student Guide to Strategic Performance on COMLEX-USA

This guide, written by the co-founder of COMBANK, provides excellent information on learning and self-awareness, and explains COMLEX and the three types of questions the exam utilizes.

<http://www.combankmed.com/wp-content/uploads/2014/03/COMBANK-Student-Guide-2014.pdf>

Book: *How to Study for Standardized Tests* by Sefcik, Bice, & Prerost (2013)

http://www.amazon.com/Study-Standardized-Tests-Donald-Sefcik/dp/076377362X/ref=sr_1_1?s=books&ie=UTF8&qid=1408453716&sr=1-1&keywords=how+to+study+for+standardized+tests

A Resource for USMLE Step 1 Preparation

Though written for USMLE, this guide contains useful information that also applies to COMLEX preparation. http://www.com.msu.edu/Students/PDF/Student_Test_Prep.pdf

Planning a Study Schedule

Practical information for preparing a board review schedule.

http://www.com.msu.edu/Students/PDF/usmlehelp_studyschedule.pdf

Glossary of Osteopathic Terminology

Standard definitions and nomenclature. <http://www.aacom.org/news-and-events/publications/glossary-of-osteopathic-terminology>

Picmonic

A website for audiovisual learning to help students master and retain critical information.

<http://picmonic.com>

SketchyMedical (or Sketchy Micro)

A visual learning tool to help answer questions on the USMLE STEP 1. Narrated lectures that presents microbes and drugs in their own memorable spaces. <https://www.sketchymedical.com/>

Keep Anxiety at Bay

It is quite normal to be anxious about taking COMLEX; it is, after all, a high stakes, gateway exam. But, passing the exam is achievable for all medical students. That said, if your “fight or flight” response is not allowing you to focus on preparation, then you will need to confront your anxiety and seek help.

For more information about coping with anxiety, follow this link:

http://www.com.msu.edu/Students/Academic_Guidance/cope_w_test_anxiety.pdf

For personal counseling assistance, please contact the MSUCOM Office of Personal Counseling:

<http://www.com.msu.edu/Students/Personal%20Counseling%20and%20Health%20Promotion.htm>

Take Care of Yourself While Preparing

Now is not the time to give up on self-care. In fact, quite the contrary, COMLEX preparation is the perfect time to develop or maintain healthy habits. Eating a balanced diet, exercising, and sleeping are not only good for you, they can also reduce stress AND help you learn and retain information. In addition, maintaining relationships with family and friends is also important during this stressful time – you will need a good support network. The key is incorporating these things into your study schedule – actually block out periods of time for meals, for exercise, for socializing, and for sleep.

What Should You Do if You Fail COMLEX Level 1?

You are not alone! If you fail Level 1, give yourself time to cope with the news and grieve a little, then get back up and plan to try again. Tell your trusted family and friends what happened so you can garner support – don't keep it to yourself, eventually you'll have to come clean and the longer you wait, the harder it will be. Importantly, contact the Office of Academic and Career Guidance for help. We will be able to talk through your situation, help you figure out what went wrong, and work with you to set up a game plan to be successful on your next attempt. There are many MSUCOM resources available so please seek help. If you are experiencing despair, depression, sadness, and/or are struggling to cope, please seek personal counseling: <http://www.com.msu.edu/Students/Personal%20Counseling%20and%20Health%20Promotion.htm>
Instructions you fail COMLEX: http://com.msu.edu/Students/Academic_Guidance/COMLEX_retake_Chart.pdf

Contact:

WHERE DO I GO AND WHO DO I TALK TO WHEN I FAIL MY BOARDS?		
COMLEX 1/USMLE STEP 1	COMLEX 2 CE / USMLE 2CK	COMLEX 2PE / USMLE 2CS
Mangala Sadasivan, PhD, Director PEAK Program 517-353-4363, Mangala.Sadasivan@hc.msu.edu	Mangala Sadasivan, PhD, Director PEAK Program 517-353-4363, Mangala.Sadasivan@hc.msu.edu	Taylor Scott, DO, Academic Programs 517-353-8837 Robert.Scott@hc.msu.edu
<p><u>Your Academic And Career Guidance Advisor:</u></p> <ul style="list-style-type: none"> • Kim Peck, Director, Advisor • Gillian Bice, PhD, Advisor • Dawn Dewar, M. Ed • Holly Bielawski, MBA, Advisor • Kirsten Waarala, DO, Assistant Dean, Advisor <p>http://com.msu.edu/Students/Academic_Career_Guidance/index.htm</p>	<p><u>Your Academic And Career Guidance Advisor:</u></p> <ul style="list-style-type: none"> • Kim Peck, Director, Advisor • Gillian Bice, PhD, Advisor • Dawn Dewar, M. Ed • Holly Bielawski, MBA, Advisor • Kirsten Waarala, DO, Assistant Dean, Advisor 	<p>Kirsten Waarala, DO, Assistant Dean, SE MI Advisor (586) 263-6832 Kirsten.Waarala@hc.msu.edu</p>
	<p><u>Your Academic And Career Guidance Advisor:</u></p> <ul style="list-style-type: none"> • Kim Peck, Director, Advisor • Gillian Bice, PhD, Advisor • Dawn Dewar, M. Ed • Holly Bielawski, MBA, Advisor • Kirsten Waarala, DO, Assistant Dean, Advisor 	

COMLEX Level 1 FAQ

Are testing accommodations available for COMLEX?

Yes, requests must be made directly to the NBOME following the procedure described here: <https://www.nbome.org/docs/ADAApp.pdf>.

How do I know if I am ready to take the exam?

Readiness to sit for the exam is best gauged by taking a version of the COMSAE within 10-14 days of your test date. It is important to keep in mind that your *subjective* assessment of readiness may be faulty – you will likely either underestimate or overestimate your level of preparedness. Do not simply take COMLEX and “hope” for the best; the consequences of failing are potentially negative for residency, college retention, and your ability to focus on your clerkship rotations, not to mention the toll on your emotional well-being. It is better to put yourself in the best possible position to pass the exam the first time; however, you also do not want to delay *needlessly* and repeatedly as this can negatively impact your status in the college.

How many hours per day should I study?

Though research has failed to demonstrate a clear relationship between total study time and academic performance, (Plant et al., 2005), the *range of COMLEX scores* has been reported to increase as one moves from less study time to more study time (Sefcik et al., 2012). One likely interpretation is that some students study a lot but ineffectively, while others see a large positive impact on their test score from time spent

studying (Sefcik, 2014, personal communication). In other words, it's quality, not quantity that counts and there is no magical "right" number of hours. Depending on a variety of factors, such as effectiveness of study methods, baseline knowledge/performance, etc., to become truly proficient with the volume of material covered on the exam, plan to study at least 8 hours per day, 6 days per week, and adjust up or down, based on whether or not you are able to stick to your plan and are making adequate progress.

How many weeks should I spend reviewing?

Allow enough time to prepare, but not so much that you get burned out (become apathetic). Although you will have approximately 11 weeks from the time your coursework is over to the deadline for taking Level 1 (July 1st), **four to six weeks should be an adequate time period** in which to prepare. Many students in the past who have taken longer than 6 weeks, later said they felt they took too much time, and actually lost ground toward the end of their studying.

Should I do random (mixed) sets of practice questions or questions that all come from the same subject area (discipline or system)?

The answer is, both (see FAQ below—what is the best way to use my Q-bank?). Completing questions from a single subject area can be helpful, especially if used as a post-test after you've reviewed the related material. However, the real exam is a random mix of questions—you won't know what type of question is next. If you know that all the questions are going to be about physiology or will all cover the cardiovascular system you've already narrowed your focus—your brain is primed to think about things in a certain way. When these context clues are gone, as they are on the real exam, things get more challenging because you are completely reliant on each question, as a stand-alone question, to provide the cues and clues you need to answer the question. The random nature of the exam adds another layer of stress, but one that you can prepare for. Like everything else in life, the more you practice, the better, and more used to it, you become.

Should I join a formal prep program or go it alone?

This is a very personal decision. Pros and cons are discussed on page 6 of this document.

Should I take more than one version of COMSAE?

The answer partly depends on the timeframe in which you took the first version and on your first score. If you took a version of COMSAE early on to gauge your baseline performance and you scored less than 400 on that version, then yes, it is worth taking a second version closer to your test date to determine if you are ready to take the exam (i.e., about 7-14 days before). If you scored over 400 on the first version (and certainly, if you scored over 450), there is no real utility to taking another version. At that point you would be better served by taking practice tests using COMBANK or COMQUEST Q-bank.

What is the best way to use my Q-bank?

Excellent question! There are many ways to approach practice questions. You should consider using all of them as you prepare. The main reasons to do practice questions are: (1) To learn content, (2) To identify weak areas for further review, (3) To monitor progress, (4) To develop test-taking skills, and (5) To develop test-taking endurance and stamina.

- (1) *To learn content.* This is often done by using the "tutorial" function of the Q-bank software. Blocks of questions can be discipline- or system-based or mixed.
- (2) *To ID weak areas.* As you complete questions, especially those answered incorrectly, make note of problem areas. Most Q-banks are capable of generating a performance breakdown as well.
- (3) *To monitor progress.* Taking "practice exams" on a regular basis can help you to determine if you are improving over time. In turn, this information will allow you to evaluate your study strategy and methods—is what you are doing working or might you need to make adjustments? To be as accurate as possible, you should take these practice exams under simulated testing conditions (timed at about 1 minute per question, closed book "no peeking", and a RANDOM mix of questions from all subjects) and you must try to keep these conditions the same each time you take a practice exam.

- (4) *To develop test-taking skills.* Like any other skill-set, improving your test-taking ability takes deliberate practice. So, in addition to identifying your weak content areas, you should also analyze your performance in terms of how you approach questions. Do you tend to overthink/read too much into the question? Do you second-guess yourself? Do you read too quickly or skim and miss important details? Do you jump to premature conclusions before you've read the entire question? Do you focus too much on the answer options and all but ignore the question stem? It is particularly important for you to pick apart questions you got wrong when you were very confident in your answer selection, as this suggests a test-taking "process" or cognitive error as opposed to a simple lack of content knowledge.
- (5) *To develop endurance and stamina.* An 8-hour exam is exhausting and people react differently. Some crash during the afternoon session, but this can potentially be mitigated by eating the right kind of lunch, such as foods that provide sustained energy as opposed to a quick burst followed by a crash. Just as a marathon runner gradually builds up to his target mileage, as a test-taker, you need to gradually increase the number of questions and time of your practice tests, culminating about 10-14 days before your test date with a "mock" 6- to 8-hour exam day. Pay attention to your body—When do you get sleepy? How might you use this information on test day to improve your performance? What foods should you eat? How much water should you drink? Should you bring medication for headaches? Keep in mind that just as marathoners stop distance running a couple weeks prior to a marathon, you must not take long a practice exam within a week of your test date or you may be too fatigued on test day.

Also, remember, you will *never* see any of these practice questions again on the real test. There is no value in repeating the same questions over and over again, which mainly promotes memorization of those specific questions. Instead, keep in mind that anything that seems unfamiliar in a practice question – whether it is information provided in a question stem or in any of the foils – is something you may need to know to answer a different question on the real exam, so review it, learn it, remember it.

What should I do if I don't feel prepared to take the exam?

Because you are required to take COMLEX Level 1 prior to entering your Clerkship rotations, a potential consequence of postponing your test date is that you may need to take an extended leave of absence from the College. If you truly feel unable to sit for the exam, you should contact the Associate Dean of Student Services (Dr. Falls) or your Academic Advisor in the Office of Academic and Career Guidance.

Should You Take USMLE Step 1?

A growing number of osteopathic medical students are opting to register for the United States Medical Licensure Exam (USMLE), the allopathic equivalent to the COMLEX. This number will increase with the movement toward a single GME accreditation system. Historically, compared to their allopathic counterparts, osteopathic students had a lower first attempt pass rate on USMLE Step 1; however, more recent data presents a different picture with approximately 92% of DO students passing on their first try. In addition, a survey showed that 70% of graduating osteopathic medical students recommended that osteopathic students take USMLE Step 1; the most often cited reason was "to keep options open" (Hasty et al., 2012). These results are similar to those of a previous study (Punswick et al., 2006).

So, what should you do?

Due to recent trends and changes in graduate medical education, **MSUCOM students are encouraged to consider taking the USMLE Step 1**, but keeping one's "options open" requires having a competitive score (i.e., at or above the national average). Rather than making a decision based on national trends, each student must weigh a variety of individual factors, such as: class rank, MCAT score/standardized testing ability, test anxiety, and specialty choice/preference. Other variables, which may be more difficult to gauge at the end of the second year are whether or not (1) you intend to stay in Michigan, and (2) your preferred program has a pronounced osteopathic presence (i.e., is D.O. friendly, related to the number of DO students typically accepted into the

program). The decision of whether or not to take USMLE involves weighing risks versus benefits: relatively straightforward for some but complicated for others.

- Students with a substantially *high risk for underperforming* are those who have low class rank (especially bottom quintile), low first-time MCAT score, and high level of test anxiety.
- Students *least* likely to need to take USMLE are those who plan to stay in Michigan and are interested in primary care.
- Students *most* likely to need to take USMLE are those seeking allopathic programs, especially those that are competitive, outside of Michigan, and do not have a strong D.O. presence.

You can use the FREIDA Online® database to research the board exams accepted by each program. If COMLEX is not listed, they almost certainly don't accept it; however, it is always prudent to double-check with the program directly to ensure that you have the most up-to-date information.

If your preferred program *requires* a USMLE score to be considered for an interview, but you are at high risk for underperforming on the exam, it is important to discuss your options with an academic/career advisor. And always, when in doubt, talk to an academic/career advisor.

If you opt to take USMLE, the good news is that the study strategies and most of the resources used to prepare for the USMLE Step 1 are the same as those used to prepare for COMLEX Level 1. For your Q-bank, plan to purchase either USMLE-Rx or USMLEWorld. Unlike COMLEX, USMLE Steps do not have to be taken in order, e.g., Step 2 can be taken before Step 1.

- Freida Online: <http://www.ama-assn.org/ama/pub/education-careers/graduate-medical-education/freida-online.page>
- Bulletin of Information: <http://www.usmle.org/bulletin/>
- United States Medical Licensing Examination (USMLE) <http://usmle.org>
- National Board of Medical Educators (NBME) www.nbme.org
- FAQ on scores: <http://www.usmle.org/frequently-asked-questions/#scores>

Are Licensure Requirements Different for Canadian Students?

Possibly, depending on one's career goals. For more information please refer to the Canadian Student Resource Guide: http://com.msu.edu/Students/Academic_Career_Guidance/canadian_resources/canadian_student_Resources_6_10_16.pdf

If you have questions, please contact:

- Ms. Kim Peck, Director of Academic and Career Guidance; 517-884-4037; kim.peck@hc.msu.edu

COMLEX Level 2-CE

Description of the Exam

Much of the information provided about COMLEX Level 1 is also applicable to the Level 2 Cognitive Evaluation (CE). A similar clinical problem-symptom-based approach is used in both Level 1 and Level 2. The primary difference is the Dimension 2 emphasis. On Level 1, 70-85% of the questions tested scientific understanding of mechanisms because the exam is designed to test the knowledge and cognitive skills that would normally be acquired during the first two years of medical school. This is not the case for Level 2, which emphasizes History and Physical Examination (30-40%) and Health Promotion and Disease Prevention (15-20%), followed closely by Diagnostic Technologies and Management (10-20% each). This is because COMLEX Level 2 is designed to test the knowledge and skills that would normally be acquired during the Clerkship portion of medical school. Rather than basic sciences, the discipline areas on Level 2 fall are medical specialties, represented by the core rotations: Family Medicine, Internal Medicine, Emergency Medicine, Pediatrics, OB/Gyn, Surgery, Psychiatry, and OMM.

Test blueprint

Adequate preparation should begin with an understanding of what you will be tested on. As with Level 1, students should become familiar with the test blueprint: <https://www.nbome.org/comlex-cbt.asp?m=can>

When Should You Take COMLEX Level 2-CE?

MSUCOM does not mandate a date by which students must take COMLEX Level 2; however, passing Level 2-CE and PE is a graduation requirement. Most students take the exams at some point between April of their 3rd year and August of their 4th year, some earlier, some later. Because of the clinical emphasis, it is wise to complete as many core rotations as possible prior to sitting for the exam. Students find they feel most prepared to take Level 2-CE while these subjects are still relatively fresh in their minds.

Many students take their Level 2 exams before interview season begins to allow for a more flexible travel schedule, and some residency programs require applicants to have a Level 2-CE score posted in order to be considered for an interview. Furthermore, some programs begin to rank applicants in late fall or early winter, and *applicants who have not yet obtained passing scores on COMLEX 2-CE and PE may not be considered for ranking*. This is because completion of these exams is required for graduation, licensure, and starting residency on time. Be sure to [research program requirements](#) so you can time your exam appropriately.

The decision regarding when to take the Level 2 exams needs to be made thoughtfully and by carefully evaluating one's circumstances. Though students may want to consider taking Level 2-CE and PE earlier rather than later out of concern for not being able to match if they don't have a passing score, this must be balanced against the risk of poor performance or failing if taken too soon. Rushing to take Level 2 out of fear, and consequently failing one or both exams due to inadequate preparation, does not improve one's likelihood of matching. Students with low Level 1 scores may wish to take Level 2-CE earlier, hoping to demonstrate an improved score on their application, and some mistakenly believe that if they fail Level 1 they are likely to do better on Level 2 because "it is more clinical." To the contrary, MSUCOM students who obtain a below average or failing score on Level 1 are at a *significantly higher risk for failing Level 2-CE*. Any student who is in this situation should discuss their COMLEX Level 2 preparation plan with an academic advisor.

How Should You Prepare for Level 2-CE?

Preparation for Level 2-CE begins with your first rotation, just as preparation for Level 1 began with Anatomy in the first semester. Be as engaged as possible in all rotations, regardless of your level of interest in that specialty, try to learn as much as possible from patient encounters and from the attending physicians, residents, and other medical students with whom you interact. Try to read a little every day about the cases you've seen, and study in earnest for your COMAT exams.

As with Level 1, it is useful to gauge your baseline performance, either by taking a version of COMSAE Phase 2 or by creating a practice test using your Q-bank of choice. It is also important to be familiar with the test blueprint, create a study schedule, identify key resources, do practice questions, and assess your progress with practice tests. Many students use vacation time to take a week or two off right before the exam for an intensive review, but a great deal of studying must be done while you are rotating.

While not essential, it is highly advisable to have completed all primary care discipline rotations (FM/IM/Peds/OBGYN), including the IM and FM sub-internships, prior to taking COMLEX 2 CE to maximize exposure to relevant topics.

Refer to pages 8-15 of this document for additional advice.

Recommended resources for Level 2-CE

Most of the resources for COMLEX Level 2 are the same as those used to prepare for USMLE Step 2.

Review books:

- First Aid for USMLE Step 2 CK
- Step-Up to USMLE Step 2: A High-Yield, Systems-Based Review for the USMLE Step 2
- USMLE Step 2 Secrets – case-based (clinical vignettes with Q&A) review
- First Aid Cases for the USMLE Step 2 – case-based (clinical vignettes with Q&A) review
- OMT Review by Savarese – the gold standard OMM review book (“the green book”)

Q-banks:

- USMLE-Rx: www.usmle-rx.com
- USMLEWorld: www.usmleworld.com
- COMBANK: www.combankmed.com
- COMQUEST: www.comquestmed.com

COMSAE: <https://www.nbome.org/comsae.asp?m=can>

For a more detailed discussion of what you need-to-know from references often used by C2CE item-writers:

- Harrison's *Principles of Internal Medicine*
- Schwartz's *Principles of Surgery*
- Tintinalli's *Emergency Medicine*
- Nelson Textbook of *Pediatrics*

For a broad overview of relevant legal and ethical concepts and practice questions:

- Fischer, Conrad, and Caterina Oneto. *USMLE Medical Ethics: The 100 Cases You Are Most Likely to See on the Exam*. New York, NY: Kaplan, 2009. Print.
- Lewis, Marcia A., Carol D. Tamparo, and Brenda M. Tatro. *Medical Law, Ethics & Bioethics for the Health Professions*. 7th ed. Philadelphia: Davis Plus, 2012. Print.

Student recommended resources for ethics topics:

- Ethics in Medicine: <http://link.springer.com/article/10.1007%2FBF00056549>
- Case study: Catlin A (1996). The dilemma of Jehovah's Witness children who need blood to survive, *HEC Forum*, 8(4): 195-207.
http://edianas.com/portfolio/proj_EricssonInterview/articles/2005_Plant_Ericsson_Hill_Asberg_reprint.pdf

What Should You Do if You Fail?

Contact: Mangala Sadasivan, PhD, Director PEAK Program, 517-353-4363, mangala.sadasivan@hc.msu.edu
or an Advisor in the Office of Academic and Career Guidance:
http://www.com.msu.edu/Students/Academic_Career_Guidance/index.htm

COMLEX Level 2-PE

Description of the Exam

The COMLEX Level 2 Performance Evaluation (PE) is taken near the beginning of the 4th year of medical school. During this clinical skills exam, students encounter 12 standardized patients (SP) over the course of a 7-hour day. Examinees have 14 minutes for each patient encounter and 9 minutes to complete an electronic SOAP Note. The skills evaluated fall under two domains:

Biomedical/Biomechanical Domain

- Osteopathic Principles and/or Osteopathic Manipulative Treatment
- History-taking and Physical Examination Skills
- Integrated Differential Diagnosis and Clinical Problem-Solving
- Documentation and Synthesis of Clinical Findings (SOAP note format)

Humanistic Domain

- Physician-Patient Communication, Interpersonal Skills, and Professionalism

Where to learn about the Level 2-PE

Orientation guide <https://www.nbome.org/docs/PEOrientationGuide.pdf>

Instructional video <http://www.nbome.org/pe-video.asp?m=can>

Information about the Level 2-PE <http://www.nbome.org/comlex-pe.asp?m=can>

Additional resources for candidates <https://www.nbome.org/candidates.asp?m=can>

How Is the COMLEX Level 2-PE Graded?

Students must pass both the biomedical/biomechanical *and* the humanistic domains to pass Level 2-PE. There are three graded components that contribute to the overall score:

- (1) The **vast majority of the score is based on the SP evaluation**; their perspective as the patient *is key*.
- (2) SOAP note documentation, which is graded by DOs, and
- (3) OMT skills, which is graded by OMM-raters (DO physicians trained to evaluate OMT skills).

Why Do Students Fail the COMLEX Level 2-PE?

Unsuccessful students typically: (1) lack insight into how they will be graded – namely by the SPs, (2) do not understand that the exam is about *process*, not content, and/or (3) rely almost exclusively on using a PE board review book to prepare. Whatever the reason, the net result is that most students fail because they do not perform a *patient-centered* history and physical – e.g., they don't look at the patient, their body language is closed off, they fail to develop rapport, they don't convey empathy – and the SPs (rightly) assign a low score.

A student will not fail simply because s/he forgot bits and pieces of the physical exam or failed to ask an appropriate history question during one or two of the encounters; however, repeatedly committing the *same* error(s) is obviously much more significant. It is worth noting that students rarely demonstrate gross deficits in the biomedical / biomechanical domain, yet this is often the focus of exam preparation.

Failure is a “Red Flag”

Take this exam very seriously! **Failure of this portion of the COMLEX is a “red flag” to residency program directors**, even if scores on the cognitive exams are good (i.e., COMLEX Level 1 and Level 2-CE). Although you should do everything in your power to not fail the exam, at the same time, you mustn't be intimidated. This exam evaluates skills you practice and hone every time you interact with a patient. While on your rotations, be observant of how your preceptors treat patients and how patients respond to your preceptors – if you believe that what they do is not “right,” that their DPR skills seem far from ideal, and/or that patients do not seem to respond well, then do not emulate them. “But that's how my preceptor does it” is not a valid excuse for poor performance.

What successful students do

- Spend time on the NBOME web site and read the Orientation Guide prior to the exam.
- Wash their hands at the beginning of each encounter.
- Place the stethoscope directly on the patient's skin, not over the gown.
- Lay the patient down to do an abdominal exam.
- And **demonstrate the osteopathic principles of patient-centered care at all times.**

When Should You Take Level 2-PE?

Many students want to take Level 2-PE well before the end of their 3rd year; however, this desire must be balanced against the potentially negative consequences of failing. It is important to thoroughly prepare. Plan to take the PE at or near the end of your core rotations, and particularly after you have completed EM, FM, and IM; these rotations provide practice with a variety of patients/patient presentations. Check with the residency programs to which you are applying to learn if they require you to have taken (and passed) the exam to be considered for an interview. Also, as noted previously, some programs begin to rank applicants in late fall or early winter, and *applicants who have not yet obtained passing scores on COMLEX 2-CE and PE may not be considered for ranking*. This is because completion of these exams is required for graduation, licensure, and starting residency on time. Schedule the PE for the earliest available date that enables you to become fully prepared.

Available test dates: <https://www.nbome.org/exams-schedule.asp?m=can> (once the page opens, you must enter the Client Registration System)

Travel information: <http://www.nbome.org/pe-travel.asp?m=can>

How Should You Prepare for Level 2-PE?

There are essentially four things you should do to prepare: (1) **Review the Orientation Guide on the NBOME website** <https://www.nbome.org/docs/PEOrientationGuide.pdf> so that you fully understand what this exam is about, (2) Practice your DPR, history-taking, PE, and OMT skills, (3) Get (and use) critical feedback from peers, residents, and preceptors, and (4) Take full advantage of the LAC experience provided by the College.

Throw away your PE board review book!

If you choose to utilize a board review book, then use the book to *enhance*, but **not change**, what you normally do. Review books emphasize algorithmic, mnemonic-based approaches, and often make claims that, “if you complete all the checklist items, you will pass.” However, Dr. R. T. Scott (Osteopathic Physician and Director of MSUCOM Preclerkship Curriculum) offers a cautionary note, “memorizing and demonstrating a straight algorithmic approach to the patient will reinforce the perception of a DOCTOR focused encounter. Clinical encounters (not just for testing) should be PATIENT focused. It's advisable to demonstrate PATIENT focused care at every opportunity during these encounters.” By the way, this is the basis for excellence in Osteopathic Care of all patients. As one example of a simple way to be more patient focused, Dr. Scott suggests you *literally* push your chart aside and look at your patient. If you need to write something down, say, “I think what you just said is important, so I’m going to write it down.” Include the patient in your process, make eye contact, and make sure s/he feels cared for. During the exam, let patients know what you’re going to do and don’t hurt them. These things matter to patients and they matter to SPs. They are important to you because they can make the difference between Pass and Fail **and** doing them will make you a better clinician.

Get as much feedback as possible

Practice physical exam techniques, OMM, and DPR skills with a skillful peer or resident – someone you trust to give you honest feedback, not just tell you what you want to hear. As your test date approaches, on any rotation, ask a preceptor you trust to evaluate one of your patient interactions; explain that you will soon be travelling to Conshohocken so they understand the importance of providing critical feedback. In addition, MSUCOM provides a simulated Level 2-PE for practice. Sometime between January and April of your 3rd year you will be scheduled for a day in the Learning Assessment Center (East Fee Hall in East Lansing).

What Should You Do if You Fail?

Contact R. Taylor Scott, DO; Director of MSUCOM Preclerkship Curriculum, 517-353-8837,
Robert.scott@hc.msu.edu
or your [Academic and Career Guidance Advisor](#)

Web Resources

National Board of Osteopathic Medical Examiners (NBOME) – COMLEX: <https://www.nbome.org/>
NBOME – COMLEX Bulletin of Information: <http://www.nbome.org/docs/comlexBOI.pdf>
COMLEX Exams Computerized Test Dates: <https://www.nbome.org/exams-schedule.asp?m=can>
COMSAE (Comprehensive Osteopathic Medical Self-Assessment Exam): <http://www.nbome.org/comsae.asp>
Prometric: <https://www.prometric.com/en-us/for-test-takers/pages/schedule.aspx?Type=schedule>
United States Medical Licensing Examination (USMLE) <http://usmle.org>
National Board of Medical Educators (NBME) www.nbme.org
2015 USMLE Bulletin of Information <http://www.usmle.org/pdfs/bulletin/2015bulletin.pdf>
2016 USMLE Bulletin of Information <http://www.usmle.org/pdfs/bulletin/2016bulletin.pdf>

College Resources

Office of Academic and Career Guidance

http://www.com.msu.edu/Students/Academic_Career_Guidance/index.htm

Office of Personal Counseling and Health Promotion

<http://www.com.msu.edu/Students/Personal%20Counseling%20and%20Health%20Promotion.htm>

Office of the Associate Dean of Student Services

<http://www.com.msu.edu/Students/Office%20of%20the%20Associate%20Dean.htm>

MSUCOM PEAK Learning Center

Director: Mangala Sadasivan, PhD

Department of Psychiatry

909 Fee Road, Room 318B West Fee Hall, East Lansing, MI

For an appointment or additional information, please contact:

Mick Goldynia, MA

Phone: 517-353-5145

Email: Mick.Goldynia@hc.msu.edu

Other Cited Works

Baker HH, Cope MK, Fisk R, Gorby JN, Foster RW (2000). Relationship of preadmission variables and first- and second-year course performance to performance on the National Board of Osteopathic Medical Examiners' COMLEX–USA Level 1 examination, *JAOA*, 100: 153-161.

Coumarbatch J, Robinson L, Thomas R, Bridge PD (2010). Strategies for identifying students at risk for USMLE step 1 failure, *Fam Med*, 42(2): 105-10.

Plant EA, Ericsson KA, Hill L, and Asberg K (2005). Why study time does not predict grade point average across college students: Implications of deliberate practice for academic performance, *Contemporary Educational Psychology*, 30: 96-116. Retrieved from https://castl.duq.edu/Conferences/Library03/PDF/GPA/Ashby_Plant_E.pdf

Sefcik D, Church B, Falls J, and Petsche E (2012). Bulking up COMLEX level 1 scores: What preparatory behaviors enhance performance? AACOM Annual Meeting, Poster Presentation. Retrieved from http://www.com.msu.edu/Students/Academic_Guidance/bldg_up_COMLEX_1.pdf