Clerkship Guidelines
Academic Year 2024-2025

Clerkship Guidelines

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Medical Education Program Objectives

A Boston University Chobanian & Avedisian School of Medicine graduate will be able to:		
INSTITUTIONAL LEARNING OBJECTIVES	MEDICAL EDUCATION PROGRAM OBJECTIVES	
Establish and maintain medical knowledge necessary for the care of patients (MK)	MK.1	Describe the normal development, structure, and function of the human body.
	MK.2	Recognize that a health condition may exist by differentiating normal physiology from pathophysiologic processes.
	MK.3	Describe the risk factors, structural and functional changes, and consequences of biopsychosocial pathology.
	MK.4	Select, justify, and interpret diagnostic tests and imaging.
	MK.5	Develop a management plan, incorporating risks and benefits, based on the mechanistic understanding of disease pathogenesis.
	MK.6	Articulate the pathophysiologic and pharmacologic rationales for the chosen therapy and expected outcomes.
	MK.7	Apply established and emerging principles of science to care for patients and promote health across populations.
	MK.8	Demonstrate knowledge of the biological, psychological, sociological, and behavioral changes in patients that are caused by or secondary to health inequities.
Demonstrate clinical skills and diagnostic reasoning needed for patient care (CSDR)	CSDR.1	Gather complete and hypothesis driven histories from patients, families, and electronic health records in an organized manner.
	CSDR.2	Conduct complete and hypothesis-driven physical exams interpreting abnormalities while maintaining patient comfort.
	CSDR.3	Develop and justify the differential diagnosis for clinical presentations by using disease and/or condition prevalence, pathophysiology, and pertinent positive and negative clinical findings.
	CSDR.4	Develop a management plan and provide an appropriate rationale.
	CSDR.5	Deliver an organized, clear and focused oral presentation.
	CSDR.6	Document patient encounters accurately, efficiently, and promptly including independent authorship for reporting of information, assessment, and plan.
	CSDR.7	Perform common procedures safely and correctly, including participating in informed consent, following universal precautions and sterile technique while attending to patient comfort.
	CSDR.8	Utilize electronic decision support tools and point-of-care resources to use the best available evidence to support and justify clinical reasoning.
	CSDR.9	Recognize explicit and implicit biases that can lead to diagnostic error and use mitigation strategies to reduce the impact of cognitive biases on decision making.
Effectively communicate with patients, families, colleagues and interprofessional team members (C)	C.1	Demonstrate the use of effective communication skills, patient-centered frameworks, and behavioral change techniques to achieve preventative, diagnostic, and therapeutic goals with patients.
	C.2	Clearly articulate the assessment, diagnostic rationale, and plan to patients and their caregivers.
	C.3	Effectively counsel and educate patients and their families.
	C.4	Communicate effectively with colleagues within one's profession and team, consultants, and other health professionals.
	C.5	Communicate one's role and responsibilities clearly to other health professionals.
	C.6	Demonstrate appropriate use of digital technology, including the EMR and telehealth, to effectively communicate and optimize decision making and treatment with patients, families and health care systems.

A Boston University Chobanian & Avedisian School of Medicine graduate will be able to:		
INSTITUTIONAL LEARNING OBJECTIVES	**MEDICAL EDUCATION PROGRAM OBJECTIVES**	
	C.7	Practice inclusive and culturally responsive spoken and written communication that helps patients, families, and health care teams ensure equitable patient care.
	C.8	Communicate information with patients, families, community members, and health team members with attention to health literacy, avoiding medical jargon and discipline-specific terminology.
	C.9	Communicate effectively with peers and in small groups demonstrating effective teaching and listening skills.
Practice relationship centered care to build therapeutic alliances with patients and caregivers (PCC)	PCC.1	Demonstrate sensitivity, honesty, compassion, and responsiveness to a diverse patient population, including but not limited to diversity in gender, age, culture, race, religion, disabilities, and sexual orientation.
	PCC.2	Demonstrate humanism, compassion, empathy, integrity, and respect for patients and caregivers.
	PCC.3	Demonstrate a commitment to ethical principles pertaining to autonomy, confidentiality, justice, equity, and informed consent.
	PCC.4	Show responsiveness and accountability to patient needs that supersedes self-interest.
	PCC.5	Explore patient and family understanding of well-being, illness, concerns, values, and goals in order to develop goal-concordant treatment plans across settings of care.
Exhibit skills necessary for personal and professional development needed for the practice of medicine (PPD)	PPD.1	Recognize the need for additional help or supervision and seek it accordingly.
	PPD.2	Demonstrate trustworthiness that makes colleagues feel secure when responsible for the care of patients.
	PPD.3	Demonstrate awareness of one's own emotions, attitudes, and resilience/wellness strategies for managing stressors and uncertainty inherent to the practice of medicine.
Exhibit commitment and aptitude for life-long learning and continuing improvement (LL)	LL.1	Identify strengths, deficiencies, and limits in one's knowledge and expertise.
	LL.2	Develop goals and strategies to improve performance.
	LL.3	Develop and answer questions based on personal learning needs.
	LL.4	Actively seek feedback and opportunities to improve one's knowledge and skills.
	LL.5	Locate, appraise, and assimilate evidence from scientific studies related to patients' health.
	LL.6	Actively identify, analyze, and implement new knowledge, guidelines, standards, technologies, or services that have been demonstrated to improve patient outcomes.
Demonstrate knowledge of health care delivery and systems needed to provide optimal care to patients and populations (HS)	HS.1	Identify the many factors that influence health including structural and social determinants, disease prevention, and disability in the population.
	HS.2	Apply principles of epidemiological sciences to the identification of health problems, risk factors, treatment strategies, resources, and disease prevention/health promotion efforts for patients and populations.
	HS.3	Demonstrate respect for the unique cultures, values, roles/responsibilities, and expertise of the interprofessional team and the impact these factors can have on health outcomes.
	HS.4	Work with the interprofessional team to coordinate patient care across healthcare systems and address the needs of patients.
	HS.5	Participate in continuous improvement in a clinical setting, utilizing a systematic and team-oriented approach to improve the quality and value of care for patients and populations.
	HS.6	Initiate safety interventions aimed at reducing patient harm.

A Boston University Chobanian & Avedisian School of Medicine graduate will be able to:		
INSTITUTIONAL LEARNING OBJECTIVES	**MEDICAL EDUCATION PROGRAM OBJECTIVES**	
	HS.7	Incorporate considerations of cost awareness and risk-benefit analysis in patient and/or population-based care.
	HS.8	Integrate preventive interventions into the comprehensive health care of individuals.
	HS.9	Explain how different health care systems, programs and community organizations affect the health of neighborhoods and communities.
Exhibit commitment to promoting and advancing health equity for all patients (HE)	HE.1	Define health equity and describe the individual and population level differences in health outcomes and disease burden due to inequities in health care.
	HE.2	Comprehend the historical and current drivers of structural vulnerability, racism, sexism, oppression, and historical marginalization and how they create health inequity.
	HE.3	Explain how one's own identity, lived experiences, privileges, and biases influences their perspectives of colleagues, patients and clinical decision making.
	HE.4	Comprehend and identify the impact of health care inequities through medical decision making tools, interpreting medical literature and reviewing scientific research.
	HE.5	Identify factors needed to advocate for a more diverse and equitable healthcare environment at a local, community, and systems based level.

Third Year Learning Objectives

A third-year clerkship student will:

- Apply discipline specific knowledge within the context of clinical care (MK1-3)
- Gather an organized and hypothesis driven clinical history while being attentive to the patient's needs (CSDR-1)
- Perform a pertinent and accurate physical examination, accurately identifying any common abnormalities while demonstrating sensitivity to the patient. (CSDR-2)
- Analyze clinical data to formulate an assessment including a prioritized differential diagnosis supported by disease prevalence, pathophysiology, and relevant positive and negative clinical findings. (MK4-6, CSDR-3,4)
- Formulate an evidence based management plan that shows comprehension of the underlying disease process. (CSDR 4)
- Deliver an accurate, well-structured, and synthesized oral presentations appropriate for the clinical setting. (CSDR-5)
- Document in the medical record in an accurate, organized and timely manner (CSDR-6)
- Communicate effectively with the interprofessional healthcare team (C4,5)
- Demonstrate an ability to perform common procedures safely and correctly, including participating in informed consent, following universal precautions and sterile technique while attending to patient comfort. (CSDR-7)
- Counsel and educate patients and families using patient-centered language that addresses patient concerns and clearly communicates plans of care. (C1-3, C7-8)
- Elicit feedback, communicate learning needs, demonstrate self-directed learning, and take opportunities to improve knowledge and skill gaps. (LL1-4, PPD-1)
- Treat all patients and team members with compassion, respect and empathy (PCC-1, 2)
- Display trustworthiness and an understanding of the responsibilities of a clinical student (PPD-2)

- Apply an understanding of the social and structural determinants of health to clinical care and initiate steps towards addressing the individual needs of patients (HE-1,2,4, MK-8)
- Use electronic decision support tools and point-of-care resources to apply the best available evidence in supporting and justifying clinical reasoning (CSDR-8, LL5-6).
- Practice inclusive and culturally responsive spoken and written communication that ensure equitable patient care (C7)

Pre-requisite knowledge and skills

Students must have completed the preclerkship curriculum and the Transitional Clerkship and have taken the Step-I exam prior to entering the core clerkship phase of the curriculum.

Site Maps

Site maps indicating the availability of student resources at our affiliate hospitals can be found under the Clinical Sites section of the Medical Education Office's Student Resources page at: https://www.bumc.bu.edu/camed/education/medical-education/student-resources/#siteinfo.

Schedules

Block schedule dates for all clerkships can be located on the Medical Education website: https://www.bumc.bu.edu/camed/education/medical-education/academic-calendars/

Holidays

Juneteenth: Wednesday, June 19, 2024
Thanksgiving: Wednesday, November 27, 2024 at 12PM – Sunday, December 1, 2024
Intersession: Monday, December 23, 2024 – Sunday, January 5, 2025
Other holidays that occur during specific blocks will be communicated by the clerkship director.

Holidays by Clerkship can be viewed on the Medical Education website at: https://www.bumc.bu.edu/camed/education/medical-education/academic-calendars/#clerkhols

Assessment and Grading

All core clerkships and selectives use the below grading structure. ***See the clerkship specific materials for each clerkship's graded components.***

HOW MUCH EACH PART OF YOUR GRADE IS WORTH:	
Clinical Grade Percentage	
Shelf/Exam Percentage	25%
"Other" Components Percentage	
HOW YOUR FINAL WORD GRADE IS CALCULATED:	
Honors	
High Pass	
Pass	Numeric Score or between 1.50-2.49 in any domain on the final CSEF
Fail	Numeric Score or <1.50 on any domain on the final CSEF or < 2.00 averaged on the final CSEF (Clinical Fail)

HOW YOUR CLINICAL GRADE IS CALCULATED WITH THE CSEF:	
Clinical Honors	>4.45
Clinical High Pass	3.45-4.44
Clinical Pass	2.00-3.44
Clinical Fail	<2.00
SHELF/EXAM GRADING	
Exam minimum passing (percentile/2 digit score)	
What is "Other" and what percentage is it worth?	
Item	
Percentage	
Other components that need to be completed in order to pass the clerkship	
Patient log	
2 FOCuS Forms – 1 Interview Technique, 1 Physical Exam* *Medicine Clerkship has a SOCS form and a Directly Observed H&P that replaces the FOCUS forms*	

Standard Clerkship Clinical Grade Procedures/Policies

- Preceptors will provide clinical evaluations that contain the "raw data" on the student's clinical performance. Preceptors DO NOT determine the final "word" grade. You are encouraged to regularly ask for specific behaviorally-based feedback on your clinical skills from your preceptors. However, do not ask them what word grade you will get, as that is a multifactorial process of which the clinical evaluation is one component.

- The CSEF form will be used to numerically calculate your clinical grade: 1 to 5 points (depending on which box is checked) for each domain which will be averaged to give you a final score out of 5. Categories: Needs intensive remediation (1); Needs directed coaching (2); Approaching competency (3); Competent (4) or Achieving behaviors beyond the 3rd year competency criteria (5) to get a final number in each domain. This can be rounded to the nearest number using standard rounding for the CSEF domain and this is the box that should be checked (e.g., if an average of 2.4 then the student should have needs directed coaching (2) checked off). Each CSEF will be weighted based on how long the student worked with each evaluator.

CSEF Clinical Grade Calculations should be made using the 0.01 decimal point in each domain (though the rounded number will be checked off on the final CSEF form) to give a final number.
    Any average of <1.50 in any domain = an automatic fail for the clerkship
    Any average of < 2.50 in any domain = an automatic pass for the clerkship and a meeting with the MEO for clinical coaching
    >2.50 in all domains, standard rounding will be used
        <2.00 = Clinical fail which will = a fail for the clerkship
        2.00-3.44 = Clinical pass
        3.45-4.44= Clinical high pass
        >4.45=Clinical honors
    The clinical grade will be reported in the CSEF final narrative

- The CSEF clinical score is converted to a final 2-digit percentage that is counted towards the final grade. For example, the final CSEF clinical score average of 4.45 would get converted to 90%. The Final CSEF percentage is used towards the final grade calculation, weighted as indicated in the table above as "Clinical grade percentage" (varies by clerkship).

- Primary preceptors at sites with multiple preceptors will collect evaluation data from the other clinicians with whom the student works. The primary preceptor will collate this data and submit the final clinical evaluation.

Clerkship Specific Clinical Grade Procedures/Policies

- The clinical grade will be worth x% of the final grade of the clerkship and will be calculated out of a 5-point scale from the CSEF
- The shelf is worth 25% of the final grade of the clerkship. The 2-digit score will be used to calculate the numeric score out of 100.

Professional Conduct and Expectations

Evaluation of a medical student's performance while on a clinical clerkship includes all expectations outlined in the syllabus and clerkship orientation as well as the student's professional conduct, ethical behavior, academic integrity, and interpersonal relationships with medical colleagues, department administrators, patients, and patients' families. Student expectations include those listed below in professional comportment sections. If there are multiple professionalism concerns through a clerkship or a student fails to meet the administrative expectations of a clerkship, the student will not be eligible to receive honors on the clerkship. A student will be given feedback prior to receiving their final grade for the clerkship if their professional conduct is of concern. Prior to receiving a final grade, if a clerkship director determines that a student does not meet the professional conduct and expectations of the clerkship, a student will fail the clerkship. Any professionalism lapses resulting in either a clerkship fail or ineligibility to receive honors will require narrative comments by the clerkship director in the summative comments section of the final evaluation and the student will be given feedback in advance of the final grade form submission.

Shelf Exam Failure & Remediation

If a student fails their shelf exam, they will receive an Incomplete for the clerkship and retake the exam at the end of the year. Students :

- will not receive a Fail on their transcript if they pass the reexamination.
- will not be eligible for a final grade of honors - if the final grade calculation would earn the student honors, they will receive high pass as a final grade. Students would still be eligible to receive a clinical honors.
- If a student fails the reexamination, they will have Fail on their transcript, and have to remediate the clerkship.

Clerkship Failure & Remediation

If a student fails a third- or fourth-year clerkship, the student will receive a Fail grade and will be required to repeat the clerkship. The grade for the repeated clerkship will be calculated based on the grading criteria outlined in the syllabus for Pass, High Pass, or Honors independent of the prior Fail. The original Fail grade will remain on the transcript. The original summative evaluation narrative will be included in the MSPE, in addition to the summative evaluation from the repeated clerkship.

If a student fails the remediated clerkship again and the SEPC allows for another remediation, the grade for the repeat clerkship will still be calculated based on the grading criteria outlined in the course syllabus for (Pass, High Pass, or Honors). The original two failures will remain on the transcript. The repeated course will be listed again, and the word (Repeat) will appear next to both course names.

Grade Review Policy

The School's Grade Reconsideration Policy is located in the Policies and Procedures for Evaluation, Grading and Promotion of Chobanian & Avedisian School of Medicine MD Students:
https://www.bumc.bu.edu/camed/faculty/evaluation-grading-and-promotion-of-students/

AME/Kaiser Core Faculty Direct Observation

During the third year, students will be directly observed by their core AME (or Kaiser) faculty three times throughout the year. They will also submit one write up in their core AME/Kaiser faculty's discipline, and one video of a session with an SP for review and feedback. At the end of the year, the core AME/Kaiser faculty will write a narrative summary describing the student's growth trajectory and competency development in the

observed domains. This narrative will be included as part of the End of Third Year Assessment (in addition to the EOTYA 6 station OSCE).

Formative Assessments

The purpose of formative assessment is to improve student learning by providing feedback on how well they are learning skills and content during the clerkship. Formative assessments are not included in the calculations of students' final grades. Each clerkship has required **FOCuS** (**F**eedback based on **O**bservation of **C**linical **U**ME **S**tudent) forms which must be completed by the mid/end of the clerkship. These forms will provide formative assessment through direct observation of CSEF behaviors. Each student is required to complete one interviewing technique and one physical exam FOCuS form on each clerkship.

In the Medicine Clerkship the FOCuS forms will be replaced by SOCs and a Directly Observed H&P.

Formative Assessment and Feedback Policy

Boston University Chobanian & Avedisian School of Medicine ensures that each medical student is provided with formative assessment early enough during each required course or clerkship to allow sufficient time for remediation. Formative assessment occurs at least at the midpoint of each required course or clerkship four or more weeks in length.

Full Policy: https://www.bumc.bu.edu/camed/education/medical-education/policies/formative-assessment-and-feedback/

Mid-Clerkship Review

You and your clerkship director, site director or primary faculty/preceptor will complete the Mid-clerkship Evaluation form at the mid clerkship point.

The purpose of this evaluation is to give the student a chance to understand both their strengths as well as opportunities to improve. The feedback received at the mid-clerkship review is intended to allow the student to improve their clinical skills in real time.

Final Summative Assessments

The final summative assessment will be based on the clerkship grading policy and include a final narrative describing your overall grade, clinical grade, based on the CSEF (Clinical Student Evaluation Form), and other assessments, depending on the clerkship. The summative narrative must include a final summative statement regarding your professionalism on the clerkship (meet expectations or did not meet expectations) per the AAMC MSPE requirements. The final grade form summative narrative appears in your MSPE and is based on aggregate comments from your individual CSEFs and is written by a site director/clerkship director and is reviewed by the clerkship director before submission.

NBME Subject Examination

Students will take the NBME Subject Examination on the last Friday of the clerkship (unless otherwise communicated by the Medical Education Office). Students are given a reading day the day before the exam. Students do not report to their clerkship site on the reading day or the day of the exam. Students will be given 2 hours and 45 minutes to complete this exam. Shelf exam dates can be found in the 3rd year google calendar.

Remotely administered assessments

Students are responsible for ensuring that they meet any technical needs required for remotely administered assessments (e.g., NBME Shelf Exams, OCRAs). This includes, but is not limited to, ensuring:

- computer specifications meet requirements outlined on the Alumni Medical Library website: https://www.bumc.bu.edu/medlib/computing/busmrequirements/
- for NBME shelf exams, the student runs the laptop certification process noted below
- a consistent and stable internet connection
- a quiet testing space where the student will not be disturbed during assessment administration

Clerkships will reserve BUMC space as an onsite testing space for any remotely administered assessments. Students who do not have an appropriate testing space or prefer to test on campus should reach out to their clerkship coordinator at least two weeks prior to the assessment to make arrangements to test on campus.

Students with technical difficulties during a remotely administered assessment who do not take their assessment at a designated campus location will not be able to submit a grade reconsideration request solely for this reason.

Shelf Exam Laptop Certification Process

Students must certify their laptops one week before the NBME Subject Exam and again on the day before the exam. Instructions are provided on the Alumni Medical Library website at: http://www.bumc.bu.edu/medlib/services/computing/nbme/

If a student has technical difficulties during a shelf exam, they must report this to the clerkship coordinator. The clerkship coordinator must inform the Medical Education Office, and the student is required to have their laptop evaluated by BUMC IT before their next shelf exam. https://www.bumc.bu.edu/it/support/bumc-it/request/

Exam Policies
https://www.bumc.bu.edu/camed/education/medical-education/policies/exam-policies-for-medical-students/

Testing Center Policies
https://www.bumc.bu.edu/camed/education/medical-education/policies/l-11-testing-center/

Make-Up Exams

Students needing to make up the exam or remediate only the exam portion of the clerkship must contact the Clerkship Coordinator to arrange for a make-up/remediation date. **Students may not take a make-up or remediation exam during any block they currently have a scheduled rotation.** Make-up and remediation exams will typically be scheduled at the end of the third-year blocks between mid-May and early June.

Roles and Responsibilities

Each clerkship is directed by the School's Clerkship Director who oversees all clerkship sites. Each clinical site is directed by a clerkship site director who ensures that students are appropriately supervised and faculty and residents are prepared to teach at their site. Clerkships also have multiple clinical educators that have varying degrees of exposure to students. The responsibilities of the directors and coordinators are described below

more specifically. Clerkship directors are assisted by assistant clerkship directors, clerkship site directors, and clerkship coordinators.

School's Clerkship Director & Assistant Clerkship Director

- Oversees the clerkship curriculum's design, implementation, and administration
- Defines clerkship specific learning objectives and requirements
- Creates and maintains an appropriate learning environment, modeling respectful and professional behaviors for and toward students
- Ensures student and faculty access to appropriate resources for medical student education
- Orients students to the overall clerkship, including defining the levels of student responsibility requirements (i.e.., required diagnoses and procedures, direct observations, forms, feedback), grading structure and student schedule
- Oversees teaching methods (e.g., lectures, small groups, workshops, clinical skills sessions, and distance learning) to meet clerkship objectives
- Develops faculty involved in the clerkship and provides faculty development across sites specific to clerkship needs
- Evaluates and grades students
    - o Develops and monitors assessment materials
    - o Uses required methods for evaluation and grading
    - o Assures timely mid-clerkship meetings at all sites with students
    - o Ensures students receive timely and specific feedback on their performance
    - o Submits final grade form for students via School of Medicine's evaluation system
- Evaluates clerkship, faculty, and programs via peer review and annual data from the Medical Education Office (MEO) and national organizations (AAMC, NBME, etc.)
- Supports each student's academic success and professional growth and development, including identifying students experiencing difficulties and providing timely feedback and resources
- Addresses any mistreatment and professionalism concerns in real time and communicate with MEO
- Participates in the school's clerkship Educational Quality Improvement and peer review processes with completion of action items
- Ensures LCME accreditation preparation and adherence
- Adheres to the AAMC-developed guidelines regarding Teacher-Learner Expectations

Overall Clerkship Coordinator

- Supports the clerkship director in their responsibilities above
- Creates and maintains an appropriate learning environment, modeling respectful and professional behaviors for and toward students
- Responds within one business day to student emails and questions
- Maintains student rosters and clinical schedules
- Coordinates orientations and didactic sessions
- Liaises with site directors and administrators to coordinate student experiences across all sites and timely collection of evaluations
- Verifies completion of clerkship requirements, including midpoint and final evaluations for each student, required diagnoses, and FOCuS forms
- Monitors students' reported work hours and report any work hours violations to the clerkship director
- Coordinates and proctors clerkship exams

Clerkship Site Director

- Oversees the clerkship curriculum and administration at the site
- Creates and maintains an appropriate learning environment, modeling respectful and professional behaviors for and toward students
- Is available and responsive to students' questions and concerns
- Ensures all faculty and residents teaching students are oriented to students' expectations, responsibilities, learning objectives, requirements, and assessments used in the clerkship
- Ensures student and faculty access to appropriate resources for medical student education
- Orients students to the clinical site when new students arrive at the site
- Reviews clerkship requirements and student expectations at site
    - Provides site specific information including, but not limited to, lockers, library, call rooms as applicable and required by LCME
    - Reviews site-specific schedule, discusses student role and responsibilities at site, supervision at site, and who to contact with questions and concerns
- Supervises students and ensures clerkship specific required observations are completed
- Meets with the student for the Mid-clerkship review
- Meets with the student for the final exit meeting
- Ensures timely and specific formative feedback based on direct observations
- Works with faculty and residents to delegate increasing levels of responsibility to students based on clerkship requirements
- Provides site didactics when applicable
- Recognizes students with academic or professionalism difficulties and communicates to Clerkship Director in a timely fashion
- Completes and ensures the accuracy of student evaluation forms, including formative and summative narratives for students at the site
    - Ensures collection of feedback and evaluation data from all physicians who work with each student by the end of the clerkship block to meet school's grading deadlines
    - Ensures that narrative data are consistent with and support numerical data
    - Evaluates students fairly, objectively, and consistently following medical school and clerkship rubrics and guidelines
- Addresses any student mistreatment concerns immediately and notifies the Clerkship Director
- Adheres to the AAMC Teacher-Learner Expectations guidelines
- Reviews site specific evaluations at mid-year and end of year and facilitates improvements based on data
- Works with School to provide faculty development for faculty and residents
- Answers Clerkship Director's questions or concerns regarding site evaluation or student concerns
- Participates in educational programming and meetings as requested by Clerkship Director or Assistant Dean for Affiliated Sites
- Adheres to LCME guidelines

Clerkship Site Coordinator

- Supports the clerkship site director in their responsibilities above

- Creates and maintains an appropriate learning environment, modeling respectful and professional behaviors for and toward students
- Responds within one business day to student emails and questions
- Sends out welcome email informing students where and when to arrive at least 72 hours before student start date
- Provides students with their contact information and remains available for questions and concerns during working days and hours
- Ensures students are oriented to clinics and hospital
- Obtains, tracks, and manages student rosters
- Obtains and maintains student information required by the site, as applicable
- Creates and distributes:
  - Student schedules to students, faculty, and staff before clerkship start date
  - Didactics/Presentation schedules, if applicable
- Schedules mid-clerkship evaluations; tracks and keeps record of completion and provides to overall Clerkship Coordinator
- Informs faculty and overall Clerkship Coordinator of student absences
- Arranges and schedules educational resources as applicable (e.g., SIM lab, EMR & Scrub training) and helps students troubleshoot
- Provides students with necessary documents and resources needed to be oriented to site
- Monitors and processes evaluations for distribution to faculty and residents
- Collects timely feedback from faculty for mid and end of clerkship evaluations to meet School's deadlines
- Collects feedback and evaluation data from all physicians who work with each student by end of clerkship block to meet School's grading deadlines
- Understands evaluation system and all site requirements
- Communicates site information changes (e.g., faculty, rotation details) to School's Clerkship Director and Clerkship Coordinator
- Maintains communication with Clerkship coordinator centrally and response within one business day
- Coordinates site specific meetings and faculty development with School

Primary Clinical Educators
- Sets and clearly communicates expectations to students
- Observes students' history taking and physical exam skills, and documents it on the FOCuS form
- Delegates increasing levels of responsibility to students based on clerkship requirements
- Maintains appropriate levels of supervision for students at site
- Creates and maintains an appropriate learning environment, modeling respectful and professional behaviors for and toward students
- Recognizes students with academic or professionalism difficulties and communicates to Clerkship Director in a timely fashion
- Gives students timely and specific formative feedback based on direct observations
- Assesses students objectively using School of Medicine's evaluation system
- Adheres to the AAMC Teacher-Learner Expectations guidelines

Supervision
Initially, the primary clinical faculty members should designate time to observe you performing: **history taking, focused physical exam, clinical problem-solving and interaction with patients and patient education.**

Once the supervisor establishes the student's level of confidence and competency, the student should be delegated increasing levels of responsibility in patient care, as appropriate. Although students may initiate a particular patient encounter on their own and without direct supervision, the faculty must at some point review the encounter with the student and inform the patient in-person that the student's assessment and management plan has been reviewed and approved by the faculty. The faculty is ultimately responsible for the evaluation, treatment, management, and documentation of patient care. If students have concerns regarding their clinical supervision, the site director and clerkship director should be immediately notified. Any supervision concerns should also be immediately submitted through the ATM link or directly to the Associate Dean of Medical Education.

Supervision and Delegating Increasing Levels of Responsibility

It is expected that the level of student responsibility and supervision will be commensurate with student's competency and level of confidence. When the student arrives to a new setting, a faculty may wish to observe you for the first session. Thereafter, you should begin to see patients on your own. In the outpatient setting, **the student should initially perform 4-5 focused visits <u>per day</u> in the first week, increasing to 6-12 thereafter. In the inpatient setting, the student should initially follow 1-2 patients and increased to 3-4 thereafter. This will vary slightly by clerkship.**   When a student feels that they are being asked to perform beyond their level of confidence or competency, it is the responsibility of the student to promptly inform the preceptor. It is then the preceptor's responsibility to constructively address the student's concerns and appropriately restructure the teaching encounter to address the student's learning needs.

<u>Under no circumstances should the following occur</u>:
- Patient leaves the office/hospital without having had a direct face-to-face encounter with clinical faculty/ supervising resident.
- Primary faculty gives "prior approval" for student to perform intervention (order labs, prescribe meds) without satisfactory review.
- Patient leaves office/hospital without being informed that assessment/ management plan has been directly reviewed and approved by the faculty.
- Learning in which a student is expected to perform an intervention or encounter without the prerequisite training and/or adequate supervision.
- Student note provides the only record of the visit. Although all faculty see all patients, faculty must document that <u>they</u> were actually the person responsible for seeing and examining the patient.

Intimate Exam Policy
Students participating in an intimate exam with a patient (which includes, pelvic, genitourinary and rectal exam) must have a chaperone with them, irrespective of the gender of the patient or the student. Permission to participate in an intimate exam must be obtained by the supervisor in advance of the examination itself. The patient has the right to decline student attendance at any examination.
If a student is unable to perform any intimate exam due to patient preference, the student's evaluation will not be impacted and if necessary, the clerkship director will provide an alternative experience.

Physical Exam Demonstrations
The demonstration of the physical examination on students should not be done by any supervisor of students including residents and attending faculty. Practicing the physical examination on students places them in a position where they may feel pressure to consent to something they may not feel comfortable with.

Third Year Student

Students are expected to adhere to BU's and Chobanian & Avedisian School of Medicine's policies, provided below in the [BU Policies and Student Support Services section](#).

Professional Comportment

Students are expected to adhere to the AAMC-developed guidelines regarding Teacher-Learner Expectations, located on the Policies page, under "Academic Policies and Information" (https://www.bumc.bu.edu/camed/files/2015/05/AAMC-Teacher-Learner-Expectations.pdf)

Students are expected to be aware of and follow the site expectations on professional comportment, including, but not limited to, dress code and the use of phones, pagers, and laptops. Students must arrive on time at their site and for any scheduled sessions. Any missed sessions and absences must adhere to the Attendance, Time Off, and Personal Days Policy.

Further, below are expectations for student professional conduct and behavior in the core clerkship curriculum. These include, but are not limited to:

- Treating and communicating with the clerkship team in a respectful manner.
- Engaging in the core curriculum and participating respectfully with peers and colleagues at all times.
- Arriving at clerkship didactic sessions on time and being present throughout sessions.
- Requesting faculty and resident evaluations in a timely manner.
- Reviewing and responding to e-mail requests in a timely manner.
- Returning borrowed clerkship materials on time.
- Handing in all assignments and clerkship documentation on time.
- Completing all logs and FOCuS forms by the clerkship specific deadline.
- Informing clerkship leadership and supervising faculty/residents of absences in advance of the absence.

Professional conduct will be reviewed at the mid-clerkship feedback session. Additionally, students will be given feedback prior to receiving their final grade when professionalism concerns are identified on the clerkship. If students are not meeting expectations for professional conduct and behavior in the clerkship or there are concerns, students will be made aware of the concerns noted by the clerkship directors, clerkship coordinator, faculty or residents.

Ethical Behavior for Examinations and Mandatory Sessions

- Refrain from any conversation with your peers during exams and as you leave the L-11 testing space (when applicable), including within the vending room and elevator waiting area, until you are on the elevator.
- Refrain from leaving your computer camera view at any point during the examination. Any time where a student cannot be viewed may result in failure of the examination.
- Don't seek or receive copies of the examinations
- Signing in classmates, or signing in yourself and not staying for mandatory sessions is considered cheating and violations will be referred to Medical Student Disciplinary Committee
- If you are aware of any violations of the ethical standards listed above, within the Student Disciplinary Code of Academic and Professional Conduct, or otherwise, report it to the Clerkship Director

Student Evaluation of the Clerkship

Student feedback is a highly valued, critical resource for helping us continually improve our curriculum. Evaluation of learning experiences is a requirement of the Liaison Committee on Medical Education. To ensure that we have a representative amount of data on our courses and clerkships, all students are expected to complete an evaluation via the School of Medicine's evaluation system, MedHub (https://bu.medhub.com/), for each of the courses/modules and their instructors. All evaluations are anonymous and aggregate data is only released to clerkship directors after grades have been submitted for the blocks. Please comment freely and honestly about your experience.

Blackboard

Students will have access to a Blackboard site for the clerkship. The site is listed under "My Courses" on your Blackboard landing page.

Students who have questions about the Blackboard site or find that they do not have access to the site should contact the Clerkship Coordinator for assistance.

Blackboard Learn: https://learn.bu.edu/

Patient Encounters/Case Logs

Across the third year, there are required patient encounters and procedures that must be logged whenever they are seen. To log the patient encounter, students must have participated in the history, physical exam, assessment and plan development of the patient.

Required Patient Encounters (The Core)

Each core clerkship has a list of patient encounters and procedures that students are required to see before the end of the rotation. Students should log every time they see any patient with the required patient encounter and continue to log throughout all clerkships.
The full list of encounters and the clerkship-specific lists are available at
https://www.bumc.bu.edu/camed/education/medical-education/faculty-resources/

Alternative Patient Encounters

If a student has not been able to experience all patient encounters required for the clerkship, students must address any gaps in their patient encounters through an alternative experience. Alternative experiences may be simulation, videos, etc., depending upon the clerkship requirement.

Patient Encounter Log

Students are expected to log their patient encounters in MedHub (https://bu.medhub.com/). Patient logs help the clerkship ensure that each student is seeing a diagnostically diverse patient population, an adequate number of patients, and performing a sufficient number of required procedures and diagnoses. Students must bring a printed copy of their patient encounter and procedure log to their mid rotation feedback meeting.

Learning Environment Expectations

Chobanian & Avedisian School of Medicine has a **ZERO** tolerance policy for medical student mistreatment. We expect students to be aware of the policy for appropriate treatment in medicine, including procedures for reporting mistreatment.

Learning more about the school's efforts to maintain and improve the learning environment at:
https://www.bumc.bu.edu/camed/education/medical-education/learning-environment/

Appropriate Treatment in Medicine

Students who have experienced or witnessed mistreatment are encouraged to report it using one of the following methods:

- Contact the chair of the Appropriate Treatment in Medicine Committee (ATM), Dr. Vincent Smith, MD, directly by email (vincent.smith@bmc.org)
- Submit an online Incident Report Form through the online reporting system https://www.bumc.bu.edu/camed/student-affairs/atm/report-an-incident-to-atm/

These reports are sent to the ATM chair directly. Complaints will be kept confidential and addressed quickly.

Appropriate Treatment in Medicine website: https://www.bumc.bu.edu/camed/student-affairs/atm/

Learning Environment Oversight (LEO)

The Learning Environment Oversight group was established in June 2022 and serves as a mechanism to monitor all aspects of the learning environment and report back to the school community on a regular basis. The group is comprised of representation from the Medical Education Office, Student Affairs Office, Appropriate Treatment in Medicine Committee, and students from all curricular years.

Student Support Services

Academic Enhancement Office

The Academic Enhancement Office (AEO) supports the academic and personal success of all medical students. Recognizing that individual students have different needs in order to be successful in medical school, various programs and services are available to all current medical students. Programs are designed to help students adjust to the rigors of medical school and strive to learn balance, with more effective study habits that promote and sustain lifelong learning. Through small group sessions and individual meetings, we work with students to leverage the necessary skills to balance academic and personal growth.
https://www.bumc.bu.edu/busm/student-affairs/office-of-academic-enhancement/

Tutoring

Peer tutors may be requested via the Academic Enhancement Office's Peer Tutoring Program at:
https://www.bumc.bu.edu/camed/student-affairs/office-of-academic-enhancement/academic-enhancement/peer-tutoring-program/

Disability & Access Services

Students who wish to request accommodations for learning at Chobanian & Avedisian School of Medicine can do so through Disability & Access Services. Information about the process is available on the Academic Enhancement Office's page: https://www.bumc.bu.edu/camed/student-affairs/office-of-academic-enhancement/accommodations-for-learning/

Disability & Access Services' goal is to provide services and support to ensure that students are able to access and participate in the opportunities available at Boston University. In keeping with this objective, students are

expected and encouraged to utilize the resources of Disability & Access Services to the degree they determine necessary. Although a significant degree of independence is expected of students, Disability & Access Services is available to assist should the need arise.
https://www.bu.edu/disability/accommodations/

General Student Policies

Policies and Procedures for Evaluation, Grading and Promotion of Students
This is a school-wide policy and can be located at: https://www.bumc.bu.edu/camed/faculty/evaluation-grading-and-promotion-of-students/

Early Identification and Feed Forward Policy
https://www.bumc.bu.edu/camed/education/medical-education/policies/early_identification_policy/

Medical Student Disciplinary Code of Academic and Professional Conduct
The School of Medicine expects all students to adhere to the high standards of behavior expected of physicians during all professional and patient care activities at the school and all of its academic affiliates. All students must uphold the standards of the medical profession. This includes, but is not limited to, being respectful of patients, staff, members of the faculty, their peers, and the community, being aware of the ways in which their conduct may affect others and conducting themselves with honesty and integrity in all interactions.

Students are also required to adhere to the highest standards of academic honesty and professional conduct in relation to their coursework.

https://www.bumc.bu.edu/camed/about/diversity/prs/medical-student-disciplinary-code/

Attendance Policies
On-site hours must be limited to 80 hours per week, averaged over a two-week period. Violations should be reported directly to the clerkship director or to an Associate Dean (Medical Education or Student Affairs). As part of becoming a professional, medical students should have the flexibility to address personal and professional needs at their discretion. In the clerkship year, as students transition to more of a professional work environment, they gain the responsibility of a working professional, yet do not have the agency to attend to their personal needs. As such, the Student Affairs Office and Medical Education Office have developed this personal day policy in conjunction with the clerkship directors for the core clerkship year. In addition to addressing issues of wellness and professional development, this policy will teach students the importance of time management and managing days off.

Time off requests must comply with the Attendance, Time Off, and Personal Days Policy.

- **Attendance, Time Off, and Personal Days Policy:**
  https://www.bumc.bu.edu/camed/education/medical-education/policies/attendance-time-off-policy/
  - **3rd Year Excused Absences & Personal Days Requests:**
    https://wwwapp.bumc.bu.edu/MedPersonalDays/home/Index
- **Work Hours:** https://www.bumc.bu.edu/camed/education/medical-education/policies/work-hours/

- **Jury Service:** http://www.bu.edu/dos/policies/lifebook/jury-service/
- **Religious Observance:** https://www.bu.edu/chapel/religion/religiouslifepolicies/
- **Weather Policy:** https://www.bumc.bu.edu/camed/education/medical-education/policies/weather-policy/

Clerkship Specific Restricted Dates

Students may not request a personal day that falls within a clerkship's restricted days. Clerkship-specific restricted days can be found on the Attendance, Time Off, and Personal Days Policy: https://www.bumc.bu.edu/camed/education/medical-education/policies/attendance-time-off-policy/#restricted

Scrubs Policy

https://www.bumc.bu.edu/camed/education/medical-education/policies/scrubs-policy/

Needle Sticks and Exposure Procedure

The needle sticks and exposure policy outlines the appropriate preventative measures and what to do in the case of unprotected exposure to body fluids. https://www.bumc.bu.edu/camed/student-affairs/additional-student-resources/needle-stickexposure/

Boston University Sexual Misconduct/Title IX Policy

This university-wide policy can be located at: http://www.bu.edu/safety/sexual-misconduct/title-ix-bu-policies/sexual-misconducttitle-ix-policy/

Boston University Social Media Guidelines

This university-wide policy can be located at: http://www.bu.edu/policies/information-security-home/social-media-guidelines/

Using Generative AI in Coursework Guidelines

With the increased use of Generative AI, Boston University's Faculty of Computing & Data Sciences has issued guidelines around use and attribution. https://www.bu.edu/cds-faculty/culture-community/conduct/gaia-policy/

School of Medicine Policies

In addition to the expectations listed above, all students are expected to adhere to Chobanian & Avedisian School of Medicine and Boston University policies. https://www.bumc.bu.edu/camed/education/medical-education/policies/

Instructional Tools

MedHub

Chobanian & Avedisian School of Medicine uses MedHub for evaluation and assessment. MedHub uses Single-Sign-On with BU accounts, and contains tutorial and training resources under the "Help" tab once logged in. Students with technical issues or in need of additional help beyond the resources provided should submit a support ticket via: https://www.bumc.bu.edu/evalue/medhub-support-tickets/

Echo360/Technology

Echo360 may only be used for streaming captured lecture videos; the videos may not be downloaded. Taking smartphone or digital pictures or videos of any part of the lecture in class, or at home, is similar to downloading and is not allowed. There are a number of reasons for this, including that students and/or the University may be liable for violations of federal copyright and privacy laws as a result of the use of copied material.

If you experience any technical problems, please report the issue in one of the following ways to generate an IT ticket:

- **Echo360 Related Issues:** Create a ticket on the Ed Media site (http://www.bumc.bu.edu/bumc-emc/instructional-services/echo360/): sign in and provide pertinent information that will enable an effective response. Have a link to the problematic video ready to copy/paste into this form.

- **Educational Technology Related Issues:** For assistance with technology supported by BUMC's Educational Media (e.g., ExamSoft), tickets can be created via their website at: http://www.bumc.bu.edu/bumc-emc/instructional-services/report-an-educational-technology-issue/

- **Other Technology Related Issues:** For assistance with BU-wide technology, such as Blackboard, email an example (e.g., picture or very brief phone video) to ithelp@bu.edu with a descriptive subject line and give as many details as possible on the what, where, how you are using the service and what type of computer, browser, etc. along with type of student (i.e. M3). Always include link(s) to or screen shots of where the issue is occurring.

- **School's Policy on Recordings:** https://www.bumc.bu.edu/camed/education/medical-education/policies/classroom-recordings/

Neurology Clerkship
Academic Year 2024-2025

Neurology Department
MEDMD 303
2024-25

Clerkship Director: Katelyn Bird, MD, MS
Associate Director: Ariel Marks, MD
Clerkship Coordinator: Joey Russo

Clerkship Learning Objectives
(Linked to Medical Education Program Objectives in parentheses)

By the end of the Clerkship the student will be able to:

a. Gather an organized neurological history effectively using clinical reasoning and differential diagnosis driven questioning.

b. Demonstrate competency in performing and interpreting the neurological history and examination.

c. Recognize abnormal findings on the examination and put these together with the history to localize the lesion in the nervous system.

d. Assess, formulate a prioritized differential diagnosis, and propose initial evaluation and management for patients with common neurological disorders based on localization.

e. Apply neurology specific knowledge to propose routine treatment plans for common neurological diseases and be able to discuss the risks of these treatments.

f. Tailor oral presentations and documentation to the neurology subspecialty in a way that is organized, accurate, and timely.

g. Recognize the indications for, possible complications of, and basic interpretations of results from routine neurological tests such as electroencephalography, electromyography, computerized tomography, and magnetic resonance imaging.

h. Understand the indications and contraindications for performing LPs and know the general approach for performing LPs. Be able to interpret the results of the CSF studies.

i. Describe how end of life and cultural competency issues are addressed in neurologic patients.

j. Discuss how health care disparities can affect underserved populations and impact neurological care.

k. Reliably demonstrate professional behavior consistent with the values of the medical profession.

Contact Information

Clerkship Director

Katelyn Bird, MD, MS
Telephone: (317) 529-5636 (cell)
Email: kbird@bu.edu
Office: 85 East Concord St. G012

Assistant/Associate Clerkship Director

Ariel Marks, MD
Telephone: (786) 514-2112 (cell)
Email: marksa@bu.edu
Office: 85 East Concord St. 1120

Clerkship Coordinator

Joey Russo
Telephone: (781) 799-5660 (cell)
Email: jnrusso@bu.edu
Office: 85 East Concord St. G100

Clerkship Description

Focus of clerkship

The purpose of the third-year clerkship in Neurology is to provide the basics of neurological disease seen in inpatient and outpatient neurology settings. This Clerkship focuses on immersing the student to Neurology and prepare them for any encounter of Neurological disease in the student's future career in any chosen specialty. The clerkship will teach the basics of taking a neurological history and performing an examination with the goal of localizing the lesion in the nervous system. It will also teach how to synthesize information from history and physical in order to produce a differential diagnosis and treatment plan. You will be exposed to the outpatient clinic where you will encounter chronic disorders and to the inpatient setting where you will be involved in treatment of acute neurological disorders. Students will also learn the indications and contraindications for performing LPs and know the general approach for performing LPs through simulation. In addition, the clerkship offers support to those considering Neurology as a future career.

What to Expect During the Neurology Clerkship
You will work in high volume ambulatory and inpatient practices of Neurologists and residency programs. During the clerkship, you will:
- Learn how to complete a neurological examination in a timely manner, interpret the findings of the neurological examination, and localize the lesion.
- Learn how to work in a large team and focus on patient care.
- You will be taking care of patients, working with your team, preparing for rounds, and keeping-up with supplementary self- directed reading.
- You will understand the concepts of evidence-based neurology.
- You will get exposure to a lumbar puncture simulation.

How to Succeed
To successfully complete the clerkship, the student is required to do the following:
- Always remain professional.
- Participate fully in ALL didactics, inpatient, and outpatient settings. Show interest and motivation. Ask questions.
- Conquer Neurophobia.
- Be pro-active about seeing patients. Read about the conditions you see in real time. Integrating clinical work with Shelf preparation will help you to retain everything you learn.
- Consider giving 5-minute topic presentations on the floors.
- Review your neuroanatomy and radiology.
- Practice your neurological exam whenever possible.

- For the differential mention the most common, the most treatable, most dangerous, and a couple of zebras.
- Do practice questions throughout the clerkship. It is a short clerkship, so start studying for the Shelf EARLY.

Pre-requisite knowledge and skills

Students must have completed their second-year curriculum and the Transitional Clerkship and have taken the Step-I exam prior to taking this clerkship.

Students in the Clerkship are expected to have passed the second year Neurology PISCES and Advanced Integration.

Clerkship Changes Made Based on Feedback
- Create a more balanced rotation regarding the mix of inpatient and outpatient time.
- Better communication with preceptors prior to outpatient sessions as well as with student evaluations.
- Creating a more uniform experience across all sites.

Diversity, Equity, and Inclusion Initiatives

We begin orientation by emphasizing our department's commitment to providing an inclusive and welcoming environment for both learners and patients.

We have reviewed and updated the wording in our teaching clinical cases to ensure that they contain appropriate terminology and inclusive language.

As a department we have adopted Health Equity Rounds (HER) in our department, this was an initiative created at BMC in 2016 by a group of residents, fellows, and faculty, to address the impact of implicit bias and structural racism on patient care and health outcomes. It is a case-based, interdisciplinary forum in which we explore implicit biases, structural racism, and their historical and present-day contexts and brainstorm systems-based solutions. These Rounds take place every 3 months.

Other Recent Changes to the Clerkship
- Updated written OSCE.
- Introduced new didactic topics.
- New site directors at Mt. Auburn and Boston VA.

Clerkship Sites

Boston Medical Center

One Boston Medical Center Pl. Boston, MA 02118 Site Director: **Katelyn Bird, MD**, **MS** kbird@bu.edu, (317) 529-5636
Site Administrator: **Joey Russo**, jnrusso@bu.edu, (781) 799-5660

Outpatient Clinic at Boston Medical Center

All BMC students are required to complete 1-2 weeks in the outpatient neurology clinic.

This will be primarily in-person. Please email the attending 2-3 days before to coordinate, when emailing include the following:

- Your cell phone number.
- Ask for the attending's cell phone number.
- Any particular workflow expectations or preparatory work needed.

Workflow

Please make sure you can see the schedule for the attending that you are working with.

Show up to your outpatient clinic most commonly in **Shapiro Building on the 7th floor, Suite 7B** by 8:00 AM (or depending on your attending's schedule for the day). Introduce yourself to the attending and verify workflow expectations.

Expectations for outpatient:

- Be well prepared to present your patient with a thorough history, relevant past medical history, ROS, medications, prioritized differential, and plan.
- If the clinic is slow, research your patient(s) and their disorders, volunteer to take on more patients, or study independently.
- Reading up on your patients ahead of time will help you to stand out.

General and Stroke Neurology Service at Boston Medical Center

Some students will spend a portion of their neurology rotation on the general neurology service. The service pagers are 6381 (Gen Primary team), 6380 (Gen Consult team), 3278 (Stroke).

Please go to sign-out at 7:00am in the Menino 7 work room to coordinate with your team. Please go to Morning Report from 7:30-8:00am in the Menino 7 work room.

Pre-rounding includes: checking with your resident regarding any overnight issues, seeing your patient with a focused history and exam, checking Epic for new labs or imaging, reviewing vital signs and notes from consults, seeing if there are any overnight event notes or consult recommendations in the chart, and checking telemetry at the nursing station, if applicable.

After pre-rounding, you will report back to the workroom for rounds, where you will present the patient that you have pre-rounded on. The time that rounds begin depends on the attending for that day. Pre-rounding generally runs from 8-9.

Throughout the course of the day, the neurology team will be paged about patients presenting with neurologic complaints in the emergency room and throughout the hospital. You may be asked to independently evaluate a patient. Neurology is consulted for a wide variety of reasons, but some of the most common include possible seizure, altered mental status, headache, dizziness, or focal weakness.

Expectations

- Pick-up at least one patient (approved by a resident) to present at rounds.

- Pre-round on your patient(s). Specific responsibilities are listed above. In general, be aware of the results in Epic for all vitals, labs, imaging, tests, notes left by consulted teams, overnight events, etc. for your patient.
- Be well-prepared to present your patient(s) succinctly during sit down rounds, with a prioritized differential, plan, and any updates.
- Take a thorough history (including relevant past medical history and medications) and perform a comprehensive neurologic exam for a consult. Present to a resident, fellow, or attending, and include a prioritized differential, and plan.
- Complete at least one H&P or progress note daily and ask your resident or attending to evaluate and review it with you.
- Sometimes you may be able to witness procedures being done, such as lumbar punctures. Try to participate in such procedures, or assist your resident/attending, as needed.
- Research your patients or other interesting patients on the team if the service is slow, volunteer to take on more patients, teach on topics, or study. If there is work to do, you should volunteer to help.
- **Weekends**: students are responsible for one weekend shift for the entire clerkship (one day, not both) while they are on an inpatient service.

Neurology ICU at Boston Medical Center

Some students will spend a portion of their neurology rotation in the neurology intensive care unit. The ICU service tends to be the busiest service and covers very complex patients. The service pager is 8000.

Report to the NeuroICU work room at 6:30am for sign-out and then pre-round in the ICU on your patient(s). Please go to Morning Report from 7:30-8:00am in the Menino 7 work room.

Rounds are at 8am or 8:30am depending on the attending for the week. *See General Neurology Service Expectations above for more information on pre-rounding.*

Rounds typically start after sign-out and morning report, where you will present the patient you have pre-rounded on. This is the service where you will learn the most about medical management of your patients. You are expected to research management and treatment options for your patient. You serve as a liaison for your patient to other services and with the family. You may or may not write notes on your patient's every day. You should be prepared to present short (2-10 min) presentations on topics related to your patients. These may be presented during rounds, after rounds, or during downtime.

Expectations:
- Pre-round on your patients and be prepared for rounds with ALL information from tests, images, consults, vitals, vent settings, ins and outs, and any other ICP or line information that is available.
- Know the pulmonary, cardiac, GI, GU, hepatic, and renal function of each patient assigned to you. On this service you will be managing not only the neurological aspects of your patients but ALL systems.
- Learn how to do coma and brain death examinations. Many of the patients will be intubated so you will have a chance to learn these.
- Research your patients or other interesting patients on the team if the service is slow, volunteer to take on more patients, teach on topics, or study. If there is work to do, you should volunteer to help.
- **Weekends**: students are responsible for one weekend shift for the entire clerkship (one day, not both) while they are on an inpatient service.

Pediatric Neurology at Boston Medical Center

Some students will elect or be assigned to spend a portion of their neurology rotation on the pediatric neurology service. These students will receive an email from the pediatric neurology coordinator with specific instructions and a schedule. This email will tell you where to report.

The pediatric neurology clinic is located on the **8th floor of the Shapiro building, Suite 8C.** Patients report to the pediatric neurology clinic for a variety of conditions and disorders, including, but not limited to: seizure management, migraine management, concussions, cerebral palsy, or autism. These patients may present for an initial work-up or evaluation, treatment, or for follow-up.

The chief resident will orient to the current in-patients. The chief resident will also assign you a presentation topic for Thursday or Friday. This can be a 10–15-minute brief talk.

The time for attending rounds will be decided at the start of each day. During the day, the pediatric neurology team may be paged about patients presenting with neurologic issues in the emergency room or on the floor. After rounds, you will see these consults with your resident. Work after rounds will include reviewing these patients' records in Epic, speaking with patients and families about updates, and communicating the issues to the team. You may be expected to go and evaluate a patient alone. Pediatric neurology is consulted for a wide variety of reasons, but some of the most common include possible seizures, altered mental status, or headache.

Expect to attend neuroradiology rounds on Friday afternoons, and EEG rounds, pediatric neurology grand rounds, and other educational lectures as scheduled throughout the week. The times will be listed on your schedule.

Expectations
- Prepare a 10–15-minute presentation on both a topic and date approved by your chief resident.
- Prepare for outpatient clinic days by reading up on scheduled patients in Epic. The patients will be scheduled under the attending's name.
- Take a thorough history (including relevant past medical history and medications) and perform a comprehensive neurologic exam, if asked to see a patient in the clinic or emergency room. Present to the attending, fellow, or resident, and include a prioritized differential and plan.
- Complete at least one H&P or progress note and ask your resident or attending to evaluate and review it with you.
- Attend all scheduled teaching conferences including Grand Rounds, EEG rounds, and neuroradiology rounds on Thursdays and Fridays.
- Sometimes you may be able to witness procedures being done, such as lumbar punctures. Try to participate in such procedures, or assist your resident/attending, as needed.
- Research your patients or other interesting patients on the team if the service is slow, volunteer to take on more patients, or study. If there is work to do, you should volunteer to help.

Boston VA: West Roxbury & Jamaica Plain

Jamaica Plain: 150 S Huntington Ave, Boston, MA 02130
West Roxbury: 1400 VFW Parkway, West Roxbury, MA 02132
Site Director: **Orly Moshe-Lilie, MD**, orly.moshe-lilie@va.gov, (951) 623-9491
Site Administrator: **Isabelle Beckley**, isabelle.beckley@va.gov, (857) 364-5824

Students will spend time on the combined ward/consult service at the West Roxbury VA, (WR) and in the outpatient clinics at the Jamaica Plain VA, (JP). *Students return to BUMC for Tuesday didactic sessions*.

Students who have a special interest in neurosurgery may inquire for opportunities with the site director.

Orientation: In the afternoon after orientation at BMC, the students assigned to the VAMC will go to the JPVA, 6D, and meet with Dr. Moshe-Lilie. She will orient you to the schedule and procedures at the VA. Any questions regarding the VA may be brought to the site director.

Weekends: students will be scheduled for no more than 1 weekend of the clerkship if their scheduled days fall on a weekend.

Parking: Free parking is available at both the JP and WR sites. Shuttle buses run between BUMC and JPVA and WRVA. The ride is 10-15 minutes (depending on the traffic). The BUMC shuttle does not begin until mid-morning.

Mt. Auburn Hospital
330 Mt. Auburn St, Cambridge, MA 02138
Site Director: **Linda Wendell, MD**, linda.wendell@mah.org, (617) 868-0880
Site Administrator: **Mary Hewitt**, mhewitt@mah.harvard.edu, (617) 499-5140

Students will participate in outpatient patient interactions with a focus on general neurology and multiple sclerosis. Students will also have the opportunity to participate in the inpatient neurology consult service. ***Students are expected to return to BUMC for Tuesday didactic sessions.***

Weekends: in place of a weekend shift students will take a "latestay" to perform new consults that may be called in.

Parking: Please check in with the Mt. Auburn director and coordinator for more details.

Rehabilitation Hospital of Braintree
250 Pond Street, Braintree, MA 02184
Site Director: **Brigid Dwyer, MD**, Brigid.Dwyer@bmc.org, (617) 638-8456
Site Administrator: **Mackenzie Kelshaw**, Mackenzie.kelshaw@encompasshealth.com, (781) 348-2150

Students will participate in a predominantly inpatient service with a focus on traumatic brain injury, stroke, and movement disorder inpatient rehabilitation. Students may also be exposed to the outpatient clinics if possible. ***Students are expected to return to BUMC for Tuesday didactic sessions.***

Weekends: there is no weekend coverage expectations, to maximize clinical exposure students will take 1 late stay shift at Braintree where they will stay late and evaluate new admission patients up until 10:30pm

Parking: A car is needed but free parking is available at the hospital.

St. Elizabeth's Medical Center
736 Cambridge St, Boston, MA 02135
Site Director: **Margarita Ebril-Lel, MD**, margarita.ebril-lel@steward.org, (617) 784-0951
Site Administrator: **Sarah McMahon**, sarah.mcmahon@steward.org, (617) 789-2375

Students will participate in a mix of inpatient and outpatient training. The student will have the opportunity to work in the movement disorders, and general neurology clinics. Additional participation in the epilepsy, stroke, and neuromuscular clinics may also be coordinated. On the inpatient service, the student will have the opportunity to evaluate patients in the ED, on the ward, and in the ICU. The student will see a wide range of patient types including stroke, epilepsy, neuroinfectious, neurotrauma, neurooncology, and patients with neurological issues related to systemic diseases to name a few.

Weekends: students will be scheduled for no more than 1 weekend of the clerkship if their scheduled days fall on a weekend.

Parking: Students can park on the first day in Lot B and then will receive information on parking during orientation. Students will be expected to drive to off-site satellite locations for outpatient clinics- access to a car is strongly recommended.

Manchester VA
718 Smyth Rd. Manchester, NH 03104
Site Director: **Tatiana Nabioullina, MD,** Tatiana.nabioullina@va.gov
Site Administrator: **Sherri Henry**, Sherri.Henry2@va.gov, (603)-624-4366 x6663

Manchester VA Medical Center is an all-outpatient facility where clinically trained neurologists see a variety of neurological diseases daily.

The student will join orientation and didactics in person during the first week of the clerkship. They will then drive up to Manchester and begin on Wednesday of week 1. The Manchester portion of the rotation is purely outpatient. They will remain in Manchester, where housing is provided, until Tuesday of week 3, where they will return to in person attendance in Boston. They will complete their inpatient portion of the rotation at BMC (please see further details above in the BMC section).

Kaiser Permanente Regional Campus, Silicon Valley (Santa Clara and San Jose)
Santa Clara: 700 Lawrence Expy, Santa Clara, CA 95051
San Jose: 250 Hospital Pkwy, San Jose, CA 95119
Site Director: **Edwin Tasch, MD**, Ted.S.Tasch@kp.org, (408)-829-6350
Site Administrator: **Sandeep Tumber,** Sandeep.X.Tumber@kp.org, (408)-972-3807

Students will participate in a mix of outpatient and inpatient Neurology patient interactions. Students have the option of Pediatric Neurology or other Neurology electives like MS, epilepsy, or neurosurgery at Kaiser Santa Clara or Redwood City. Please send Dr. Tasch your choice a few weeks in advance. Students should plan to attend Tuesday didactics via ZOOM.

Weekends: depending on the schedule students will be scheduled for an afterhours experience which may consist of a late stay or weekend shift, students will be scheduled for no more than 1 weekend of the clerkship if they are scheduled for a weekend

Parking: Please discuss the parking situation once on site in CA.

Clerkship Schedules

Block Schedule
Block schedule dates for all clerkships can be located on the Medical Education website:
http://www.bumc.bu.edu/busm/education/medical-education/academic-calendars/

Didactic Schedule
Didactics happen every Tuesday. The exact schedule varies week to week but expect to be in didactics from 8:15-4:30, with a break for lunch. A didactic schedule will be sent out in the beginning of the block. Reminder emails will be sent out the Friday and Monday before the scheduled didactic day. Kaiser students will join via zoom. Manchester students will join via zoom in week 2 of the clerkship.
- Pain
- Cases 1-5
- Cases 6-10
- Student Presentations
- Stroke
- LP Sim
- Neurological Exam Workshop
- Neuromuscular
- Neuro ICU
- Multiple Sclerosis
- Movement Disorders

Clerkship Grading

HOW MUCH EACH PART OF YOUR GRADE IS WORTH:	
Clinical Grade Percentage	60%
Shelf/Exam Percentage	25%
"Other" Components Percentage	15%
HOW YOUR FINAL WORD GRADE IS CALCULATED:	
Honors	>=90% total weighted avg (this includes CSEF, Shelf, additional assignments), AND >=67% on shelf, AND average of >=2.5 in all CSEF domains
High Pass	>=80% total weighted avg (this includes CSEF, Shelf, additional assignments), AND >=67% on shelf, AND average of >=2.5 in all CSEF domains
Pass	>=70% total weighted avg (this includes CSEF, Shelf, additional assignments), AND >=67% on shelf OR between 1.5-2.49 in any domain on the final CSEF

Fail	<70% total weighted avg (this includes CSEF, Shelf, additional assignments)
	OR <67% on Shelf
	OR <1.5 on any domain on the final CSEF or < 2 averaged on the final CSEF (Clinical Fail)
HOW YOUR CLINICAL GRADE IS CALCULATED WITH THE CSEF:	
Clinical Honors	>4.45
Clinical High Pass	3.45-4.44
Clinical Pass	2.00-3.44
Clinical Fail	<2.00
SHELF/EXAM GRADING	
Exam minimum passing (percentile/2-digit score)	67 (5th Percentile)
What is "Other" and what percentage is it worth?	
Written OSCE Exam	7.5%
Student Presentation	7.5%
Other components that need to be completed in order to pass the clerkship	
Encounter/Procedure Log on MedHub	
2 FOCuS Forms – 1 Interview Technique, 1 Physical Exam	
Passport/Preceptor Log	
Mid-Clerkship Form	
Professionalism	
Standard Clerkship Clinical Grade Procedures/Policies	

- Preceptors will provide clinical evaluations that contain the "raw data" on the student's clinical performance. Preceptors DO NOT determine the final "word" grade. You are encouraged to regularly ask for specific behaviorally-based feedback on your clinical skills from your preceptors. However, do not ask them what word grade you will get, as that is a multifactorial process of which the clinical evaluation is one component.

- The CSEF form will be used to numerically calculate your clinical grade: 1 to 5 points (depending on which box is checked) for each domain which will be averaged to give you a final score out of 5. Categories: Needs intensive remediation (1); Needs directed coaching (2); Approaching competency (3); Competent (4) or Achieving behaviors beyond the 3rd year competency criteria (5) to get a final number in each domain. This can be rounded to the nearest number using standard rounding for the CSEF domain and this is the box that should be checked (e.g., if an average of 2.4 then the student should have needs directed coaching (2) checked off). Each CSEF will be weighted based on how long the student worked with each evaluator.

- CSEF Clinical Grade Calculations should be made using the 0.01 decimal point in each domain (though the rounded number will be checked off on the final CSEF) to give a final number.
  Any average of <1.5 in any domain = an automatic fail for the clerkship
  Any average of < 2.5 in any domain = an automatic pass for the clerkship and a meeting with the MEO for clinical coaching
  >2.5 in all domains, standard rounding will be used
     <2.00 = Clinical fail which will = a fail for the clerkship
     2.00-3.44 = Clinical pass
     3.45-4.44= Clinical high pass
     >4.45=Clinical honors
  The clinical grade will be reported in the CSEF final narrative

- Primary preceptors at sites with multiple preceptors will collect evaluation data from the other clinicians with whom the student works. The primary preceptor will collate this data and submit the final clinical evaluation.

Clerkship Specific Clinical Grade Procedures/Policies

- The clinical grade will be worth 60% of the final grade of the clerkship and will be calculated out of a 5-point scale from the CSEF
- The shelf is worth 25% of the final grade of the clerkship. The 2-digit score will be used to calculate the numeric score out of 100.

Guiding Principles – We strive to provide a grading system that is:

- Fairly applied – a system that we follow for all students.
- Transparent – students can clearly see the process by which the grade is derived.
- Recognition of success – the HONORS grade represents a performance of true distinction.
- Based on your absolute performance. There is no 'curve' or fixed percentage about who can/cannot get HONORS.
- Performance –based – what the student does and is reported- not based on potential.

Written OSCE will be administered on last Tuesday of the block. Students will go through 3 different clinical cases. Each case is composed of 3 different short answer sections that are worth 5 points each section (total of 15 points/case); time limit is 90 minutes.

The grading preamble will be written as:

StudentName completed Neurology Clerkship at ____ from __ to __ and received a **FINAL GRADE** of _____ with a **CLINICAL GRADE** of ____. The Final Grade is composed of: 60% Clinical Grade, 25% Shelf Exam and 15% for additional academic assignments (written OSCE, professionalism, and presentation).

Professional Conduct and Expectations

Evaluation of a medical student's performance while on a clinical clerkship includes all expectations outlined in the syllabus and clerkship orientation as well as the student's professional conduct, ethical behavior, academic integrity, and interpersonal relationships with medical colleagues, department administrators, patients, and patients' families. Student expectations include those listed below in professional comportment sections. If there are multiple professionalism concerns through a clerkship the student will not be eligible to receive honors on the clerkship. A student will be given feedback prior to receiving their final grade for the clerkship if their professional conduct is of concern. Prior to receiving a final grade, if a clerkship director determines that a student does not meet the professional conduct and expectations of the clerkship, a student will fail the clerkship. Any professionalism lapses resulting in either a clerkship fail or ineligibility to receive honors will require narrative comments by the clerkship director in the summative comments section of the final evaluation and the student will be given feedback in advance of the final grade form submission.

Shelf Exam Failure & Remediation

If a student fails their shelf exam, they will receive an Incomplete for the clerkship and retake the exam at the end of the year. Students:

- will not receive a Fail on their transcript if they pass the reexamination.
- will not be eligible for a final grade of honors - if the final grade calculation would earn the student honors, they will receive high pass as a final grade. Students would still be eligible to receive a clinical honors.
- If a student fails the reexamination, they will have Fail on their transcript, and have to remediate the clerkship.

Clerkship Failure & Remediation

If a student fails a third- or fourth-year clerkship, the student will receive a Fail grade and will be required to repeat the clerkship. The grade for the repeated clerkship will be calculated based on the grading criteria outlined in the syllabus for Pass, High Pass, or Honors independent of the prior Fail. The original Fail grade will remain on the

transcript. The original summative evaluation narrative will be included in the MSPE, in addition to the summative evaluation from the repeated clerkship.

If a student fails the remediated clerkship again and the SEPC allows for another remediation, the grade for the repeat clerkship will still be calculated based on the grading criteria outlined in the course syllabus for (Pass, High Pass, or Honors). The original two failures will remain on the transcript. The repeated course will be listed again, and the word (Repeat) will appear next to both course names.

Grade Review Policy

The School's Grade Reconsideration Policy is located in the Policies and Procedures for Evaluation, Grading and Promotion of Chobanian & Avedisian School of Medicine MD Students:
http://www.bumc.bu.edu/busm/faculty/evaluation-grading-and-promotion-of-students/

Assignments

Student Presentations

Each student will provide a 10-minute talk on a pre-approved topic of their choosing during one of the didactic days. You will choose your topic and receive your assigned time slot during the first week.

- The informational portion of the talk should be no more than 8 minutes (8-10 slides) long and should include a framework for evaluating your topic.
- Two minutes are allotted for the question & answer portion of the talk.
    o You will present **3** USMLE style questions based on your topic.
    o **The questions should be original and in a USMLE multiple-choice format.**
- Please practice so that you are not rushed. It is better to present less info effectively than to try to cover everything at lightning-speed.
- Your presentation will be evaluated on content, presentation skills, inclusion of a framework, USMLE type question preparation, AND ADHERENCE TO THE 10 MIN TIME LIMIT.
- When evaluating the literature for your oral presentation focus on evidence-based medicine (EBM).
    o There is an excellent breakdown of levels of evidence for each article in our journal *Neurology.*
    o Remember that in general, the highest quality information comes from double-blinded placebo-controlled trials.

Bedside Skills Session (BS)

This is the direct one to one observation of students on history and neuro examination.

Attendings/Residents/Fellows are expected to observe the student perform a history and physical examination. They should then complete the FOCuS forms on evaluating the interview and physical examination.

The goal of BS is to provide students with formative feedback on interview and examination. The diagnosis and clinical reasoning will not be tested for this exercise.

Recommended Texts

- Greenberg, Simon and Aminoff, Eds, *Clinical Neurology, 7th Ed.*, Lange Series.
  It is available in the bookstore. There is a copy of the 6th Edition available through etexts, which will be fine to use. http://www.bumc.bu.edu/medlib/resources/e-books/

- **History and Neurologic Exam**
    - Bates, B. *A Guide to Physical Examination,* JB Lippencott Co., Philadelphia
    - Drislane, F., et. al., *Blueprints in Neurology*, Blackwell Publishing.
    - Denny-Brown D, Tyler HR and Dawson, DM. *Handbook of Neurological Examination and Case Recording.* Harvard University Press, Cambridge, MA.
    - DeJong, RN. *The Neurologic Examination*, Harper and Row, New York
    - Medical Research Council. *Aid to the Examination of the Peripheral Nervous System*

- **Differential Diagnosis, Management of Neurological Illness**
    - Bradley WG, Daroff RB, Fenichel GM and Marsden CD. *Neurology in Clinical Practice*, Vols I and II, Butterworth- Heinemann, Boston
    - Patten J. *Neurological Differential Diagnosis*, Springer-Verlag, New York

- **Mental Status Examination**
    - Strub, RL and Black WF. *Mental Status Exam in Neurology*, FA Davis, Philadelphia

- **Neurologic Localization**
    - Duus P. *Topical Diagnosis in Neurology* Brazis PW, Masdeu JC and Biller J. *Localization in Clinical Neurology*, Little-Brown and Co., Boston

- **Some Useful Journals**
    - *Neurology*
    - *Stroke*
    - *Annals of Neurology*
    - *Archives of Neurology,*
    - *Clinical Neurophysiology*
    - *Journal of Neurology, Neurosurgery and Psychiatry*

- **Websites:** Many useful and fun websites are listed on **Blackboard**

- **Study Apps**
    - Neuro Localizer HD https://itunes.apple.com/us/app/neuro-localizer/id569914999?mt=8
    - Nerve Whiz https://itunes.apple.com/us/app/nerve-whiz/id380714187?mt=8
    - Neurology Prognosis https://itunes.apple.com/us/app/prognosis-neurology/id742087896?mt=8
- Case Files: Neurology https://itunes.apple.com/us/app/case-files-neurology-2nd-ed./id766132171?mt=8

Session Learning Objectives and Notes
Management of Ischemic Stroke
Stroke Fellows (rotating)
By the end of the lecture students will be able to:
1. Acute Stroke Management – identify the acute treatment options for ischemic stroke and determine which patients are appropriate for each type of therapy.

2. Inpatient Stroke evaluation – identify common causes of ischemic stroke and understand the reasoning for each element of the inpatient workup.
3. Secondary Stroke Prevention – understand appropriate prevention options based on different stroke etiologies.

LP Simulation
Dr. Katelyn Bird
By the end of this lecture students will be able to:
1. To become familiar with the contents of the LP kit.
2. To understand the reasons, risks and benefits for performing an LP and how to properly consent a patient.
3. To learn the LP technique and to become familiar with performing an LP on a mannequin.
4. To understand which tests to order and how to interpret the results.

Pain Medicine
Dr. Michael Perloff
By the end of this lecture, students will be able to:
1. Understand basic approach and principles to Pain medicine from a Neurology point of view.
2. Understand Neuropathic pain distributions, and the approach to treating these.
3. Approach to medical school, with self, wellness, and success in mind.
4. Career thoughts, expectations, reassurance yet preparation.

Cases 1-10
Dr. Katelyn Bird, Dr. Ariel Marks
1. Identify a clinical framework for approach to common neurological symptoms.
2. Understand relevant questions to help assess common neurological symptoms.
3. Use features of history and examination to localize the lesion.
4. Generate differentials based on the localization(s).
5. Understand the basics of treatment and common neurological conditions.

Neuro Exam Workshop
Dr. Katelyn Bird, Dr. Ariel Marks
1. Identify key components of the neurological examination.
2. Use appropriate technique to conduct the examination in a patient-sensitive and accurate manner.
3. Be able to understand normal and major abnormal findings on neurological examination.

Multiple Sclerosis
Dr. Konstantin Balashov
1. Review the key factors implicated in MS pathogenesis.
2. Describe and recognize symptoms, clinical forms, and natural history of MS.
3. Review the basics of MRI and current diagnostic criteria for MS.
4. Discuss other common diseases that can mimic MS.
5. Describe, generally, the drugs used to treat acute MS relapses.
6. Delay disease progression (AKA: disease-modifying treatment or DMT) and improve MS symptoms.

Neuromuscular
Dr. Ariel Marks

1. Understand the clinical applications of NCS/EMG as it pertains to neurological disorders.
2. Identify basic patterns of abnormalities on NCS/EMG in different disease states.
3. Use features of the NCS/EMG to appropriately localize within the peripheral nervous system.