

IM 665
EMERGENCY MEDICINE
ADVANCED CLERKSHIP

CLERKSHIP ELECTIVE ROTATION SYLLABUS

OSTEOPATHIC MEDICAL SPECIALTIES
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At Michigan State University College of Osteopathic Medicine (MSUCOM), we are constantly working to improve our curriculum and to meet accreditation guidelines. We need to meet the challenges of modern medicine that force us to innovate. While changes will generally be instituted at the beginning of the school year, changes may also be implemented semester to semester.

Please be mindful of the need to read your syllabi before beginning your rotation.

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ROTATION REQUIREMENTS

REQUIREMENT	SUBMISSION METHOD (For submission due dates, refer to table at the end of the syllabus)
Mid Rotation Feedback Form	Completed 100% and needing no revisions to the appropriate drop box in D2L
Learning Assignment Quizzes • Must achieve 75% or higher on all four quizzes, within two attempts	Taken in D2L
EM Shift Schedule (must be the schedule you worked, not what you were scheduled to work)	Online D2L Drop Box
Patient Types and Procedure Log • Make sure you use the log for EM elective rotations, NOT the log from the Core IM 657 EM rotation	Upload into D2L Drop Box
Only required the third time taking IM 665: 'One Pill Can Kill' table	Online D2L Drop Box
Only required the fifth time taking IM 665: 'Substances that Cause Toxicology Induced Agitation' table	Online D2L Drop Box
Attending Evaluation of Clerkship Student	Students must select their attending physician as directed within the rotation description in Medtrics. At the start of the last week of the rotation, students will need to request an evaluation in Medtrics. By requesting an attending evaluation from their assigned attending physician, the attending physician will receive an automated email link connecting them to their assigned Attending Evaluation within Medtrics. Attendings will be able to electronically access and submit the forms on behalf of their students.
Student Evaluation of Clerkship Rotation	Students will submit their rotation evaluations electronically at the conclusion of every rotation by accessing the Medtrics system:

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REQUIREMENT	SUBMISSION METHOD (For submission due dates, refer to table at the end of the syllabus)
	https://msucom.medtricslab.com/users/login/ . By the last week of each rotation, students will receive an automated email link connecting them to their assigned evaluation. Students can also access pending evaluations on the 'Home' or 'Evaluations' tabs within their Medtrics accounts.

INTRODUCTION AND OVERVIEW

This course is designed to provide the student with an opportunity to actively engage in patient-based learning experiences under the guidance of a faculty member (preceptor) in collaboration, as appropriate, with residents and/or fellows. This syllabus provides an overview of rotation goals and objectives designed to help you gain an understanding of the breadth and scope of Emergency Medicine Advanced.

Due to the diverse possibilities for learning in EM, the course leadership created the following format to further your education and allow you an advanced experience in EM as a specialty. To that end, learning assignments have been created for each elective rotation for your learning enhancement.

Students may take IM 665 up to five times. Each time you take it, you will be assigned a different set of learning assignments, readings, and quizzes. When you log in to D2L, make sure you select the correct Elective for your rotation (Elective #1 for the first time you take IM 665, #2 for the second time you take IM 665, etc.) and complete the work assigned for your rotation. Almost every learning assignment has a quiz associated with it, on which you must obtain 75% correct to successfully pass. There are four learning assignments per elective rotation so you will take four quizzes per rotation, in almost every rotation. (Note that there are two learning assignments where students complete an assignment instead of a quiz, one in Rotation #3 and one in Rotation #5; follow the syllabus.)

The faculty for IM 665 really discourages more than three audition rotations. If interested in other programs it would be wise to attempt to do another type of EM rotation such as Pediatric EM, EM Ultrasound, or others as listed that would give access to the program but provide you with additional knowledge beyond the basics. The emergency medicine physician must be the expert on the first few hours of any disease, so broadening your academic rotations' scope will be most helpful.

Regarding the Patient Types and Procedure Logs: for each Advanced EM elective rotation the student must document on the list of procedures that they complete by putting the date in the box. Multiple dates can be placed in each box if multiples are completed, and the same date may be listed if more than once in a shift if completed.

- Please total each box, entering '0' where none were done. There are no required numbers of procedures to be completed, but there is an expectation that some will be.

Please log patient encounters daily. There is no required number of patients or disease processes, however, please make sure you log the total number of encounters for each shift.

ELECTIVE COURSE SCHEDULING

Preapproval

- This course does not require preapproval from the IOR. The student should follow the below directions for elective course confirmation and enrollment.

Required Prerequisites

- This course requires the following prerequisite course(s):
 - This course requires that you must first take and pass the CORE IM 657 Emergency Medicine rotation.

Course Confirmation and Enrollment

- The student must be an active student at MSUCOM.
- Student must complete five core rotations prior to any elective rotation.
- It is the student's responsibility to provide the elective site/rotation acceptance material to the COM.Clerkship@msu.edu for MSU confirmation and scheduling.
 - MSUCOM clerkship confirmation is complete when the rotation is visible on the students Medtrics schedule.
- It is the student's responsibility to ensure enrollment prior to beginning any course/rotation.
 - Enrollment will be processed by the MSUCOM Registrar's Office upon clerkship confirmation.
 - Enrollment can be verified by the student by reviewing the Student Information System.
- MSUCOM confirmation must occur at least 30 days in advance of the rotation.
- Once confirmed, the rotation may only be cancelled 30 days or more in advance of the start date.

ROTATION FORMAT

To successfully complete this rotation, you must do **ALL** the following:

- A. Meet with the department where you will be rotating prior to the rotation and set your schedule, pick up your rotation book, obtain the conference schedule, and any other mandatory requirements as per the department.

Complete all assigned shifts. All IM 665 Advanced EM Rotations are 4 weeks in length; absences due to vacations, interviewing, or other such activities are not acceptable. **You may not work more than 5 shifts in a row or be scheduled for more than 4 consecutive days off in a row. Additionally, you may not work more than one shift in a 24-hour period. There must be shifts scheduled in each week of the four-week rotation. Conference lectures do not count as shifts worked. Because different hospitals have different lengths of shifts, the total number of shifts will vary by site, but may be no less than 14 of 28 days, excluding conference time.**

Rotation schedules **are not** to be submitted until the last Friday-Sunday of the rotation.

You must document your actual schedule worked. You are required to document any time off for illness, boards, etc. that caused a deviation from the schedule you were provided. ***All rotation days must be accounted for.***

- B. **You will need to send in your electronic version of your shift schedule, please post it to the drop box in D2L by 11:59pm the last Sunday of the rotation.**
- C. Return all rotation books to the hospital emergency department office within one week of the end of the rotation.
- D. Attend all scheduled conferences as assigned.
- E. Complete any additional didactic work as required by your local emergency department and return to their office by their deadlines. **This MAY include an EMS option.**
- F. If illness precludes you from completing a shift, you must make it up per the Clerkship Absence policy.
- G. Vacation may not be scheduled during this rotation.
- H. Interviewing time must occur on days that you are scheduled off. Any missed shifts must be made up.
- I. Always maintain professional appearance and behavior. You must achieve a satisfactory level on the direct observation rating form. Ratings of unsatisfactory in any category will be reviewed with you by a member of the MSU/COM Emergency Medicine faculty with a specific plan for remediation to be decided on a case-by-case basis.
- J. All written work must be original and completed on an individual basis.
- K. Board exams may be scheduled during this time, but most students should be able to schedule their shifts around their board schedule. If not, please email Katie Gibson-Stofflet (**katiegs@msu.edu**) as soon as you are aware that there will be a problem ahead of the conflict so alternatives may be arranged.

Although it is recognized that rotation evaluations are not under the complete control of the student, it is still the responsibility of the student to assure their timely completion. Any rotation evaluation not received by the end of the semester in which the rotation was completed will result in an NGR grade for the student. The evaluation must be completed and submitted within the two-week deadline and preferably sent in during that time period. Any student who does not complete 4 weeks of Emergency Medicine will receive an N grade unless excused. This is an elective 4-week rotation, and therefore, vacation

and interviewing time may not be taken during this month if it compromises the total number of shifts you are required to complete.

GOALS AND OBJECTIVES

GOALS

1. Provide the student with more advanced knowledge of specific topics in emergency medicine.
2. Introduce the student to basic procedures relevant to the practice of emergency medicine.
3. Facilitate an understanding of the approach to acute care clinical problem solving.
4. Continue to promote the acquisition of basic skills for the diagnosis and management of common emergencies.
5. Encourage the continued development of the student's professional attitude and behavior.

OBJECTIVES

1. Learning objectives for the emergency medicine clerkship relate to the following areas: a) cognitive knowledge; b) psychomotor skills; c) problem solving; and d) professional development. By the end of the four-week emergency medicine elective clerkship, the student is expected to have achieved, at a minimum, the following objectives through reading, conference attendance, observation, discussion, and hands-on clinical experience.
2. In addition to the above course-specific goals and learning objectives, this clerkship rotation also facilitates student progress in attaining the College Program Objectives. Please refer to the complete list provided on the MSUCOM website.

COLLEGE PROGRAM OBJECTIVES

In addition to the above course-specific goals and learning objectives, this clerkship rotation also facilitates student progress in attaining the College Program Objectives. Please refer to the complete list provided on the MSUCOM website (<https://com.msu.edu/>) and in the Student Handbook.

REFERENCES

REQUIRED STUDY RESOURCES

1. Desire 2 Learn (D2L): Please find online content for this course in D2L (<https://d2l.msu.edu/>). Once logged in with your MSU Net ID, your course will appear on the D2L landing page. If you do not see your course on the landing page, search for the course with the following criteria, and pin it to your homepage: **IM 665 Emergency Medicine Advanced**

If you encounter any issues accessing this D2L course, please email the CA (on the title page of this syllabus). It is your responsibility to make sure you have access to the course D2L page on the first day of the course.

Student D2L email addresses must be forwarded to your MSU email account.

2. The following sources should be available in every emergency department in which you rotate and are also available through MSU Libraries Access Emergency Medicine or Access Medicine with your login.
 - a. ***Tintinalli's Emergency Medicine – A Comprehensive Study Guide***, 9th edition, by Judith E. Tintinalli, M.D., et al.
<https://accessemergencymedicine-mhmedical-com.proxy2.cl.msu.edu/book.aspx?bookID=2353>
 - b. ***Academic Emergency Medicine; The 3-Minute Emergency Medicine Medical Student Presentation: A Variation on a Theme***. Davenport C., Honigman B., Druck J. 2008 Jul; 15(7):683-7
<https://onlinelibrary-wiley-com.proxy1.cl.msu.edu/doi/full/10.1111/j.1553-2712.2008.00145.x> (link verified 31-March-2025)
3. **Create an account in Access Emergency Medicine if you have not done so yet and use for this rotation. Instructions for getting to Access Emergency Medicine from the MSU Libraries website:**
 - Go to the MSU Libraries main page: <https://lib.msu.edu/>
 - Click on Databases
 - Scroll down to Access Emergency Medicine and click that link.
 - In the upper right corner of AccessEmergency Medicine, clicking MY PROFILE will let you SIGN IN OR CREATE A FREE ACCESS PROFILE
4. Other readings as per each learning assignment (see Reading List for each learning assignment)
5. In addition, your hospital may require additional articles, videos, or other forms of information to be obtained and utilized by you to further answer didactic questions that they may assign. The chief of the emergency department at your hospital will be responsible for assigning a grade to their specific material.

WEEKLY READINGS/OBJECTIVES/ASSIGNMENTS

MID ROTATION FEEDBACK FORM

This form is required for this rotation. It will need to be completed by the Attending or Resident at the end of week two of the rotation. It should be dated no later than the 3rd Wednesday of the rotation. Students must upload the form to a D2L drop box by 11:59pm on third Sunday of the clerkship to be eligible to obtain a Pass in the rotation. Be sure to post to the correct D2L course drop box for your EM Elective Rotation.

QUIZZES

Each IM 665 Elective Rotation has four Learning Assignments. You must complete a quiz for each Learning Assignment, in D2L, with a score of at least 75%. You have two attempts to achieve 75% on each quiz. You will take four quizzes per rotation (except for two rotations --

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#3 and #5 – where you will take three quizzes and complete an assignment; follow the syllabus for details). Students who fail to complete four learning assignments while on rotation will receive an 'N' grade. An 'N' grade will result in a meeting with the Committee on Student Evaluation.

Students may take IM 665 up to five times. Each time you take IM 665, you will have a different set of Learning Assignments containing Objectives, Readings, Questions to Ponder, and Quizzes. See APPENDICES 1-5 (links below) for details regarding each IM 665 Elective Rotation. Each appendix contains Objectives, Reading List, and Questions to Ponder for each Learning Assignment in that elective.

1. [Appendix 1 – IM 665 Elective Rotation #1 Objectives, Reading List, Questions](#)
2. [Appendix 2 – IM 665 Elective Rotation #2 Objectives, Reading List, Questions](#)
3. [Appendix 3 – IM 665 Elective Rotation #3 Objectives, Reading List, Questions](#)
4. [Appendix 4 – IM 665 Elective Rotation #4 Objectives, Reading List, Questions](#)
5. [Appendix 5 – IM 665 Elective Rotation #5 Objectives, Reading List, Questions](#)

PATIENT TYPES AND PROCEDURES LOG

For each Advanced EM elective rotation, the student must document on the list of procedures any that they complete by putting the date in the box. Multiple dates can be placed in each box if multiples are completed, and the same date may be listed if more than once in a shift if completed.

Please total each box, entering '0' where none were done. There are no required numbers of procedures to be completed, but there is an expectation that some will be.

Regarding patient logs seen, again there is no required number of each to be seen, but a total at the end of each shift. Failure to submit the Patient Types and Procedures Log by 11:59pm on the last Sunday of the rotation may result in an N grade. An 'N' grade will result in a meeting with the Committee on Student Evaluation.

For all assignments: Be sure to post to the correct D2L course drop box for your EM Elective Rotation. It is the duty of the student to assure arrival of anything posted, so therefore it is always a good idea to keep a copy of everything you send in.

ROTATION EVALUATIONS

Attending Evaluation of Student

Attending Evaluation of the Student is completed electronically via Medtrics by the supervisor designated within the Medtrics rotation description. To initiate this evaluation, each student must select their attending physician as directed within the rotation description in Medtrics. Students will receive an email from Medtrics to select the attending 7 days prior to the end of the rotation. Should your rotation lack a rotation description or if you have any questions, please contact COM.Clerkship@msu.edu. Upon selecting the attending physician directed within the Medtrics rotation description, the attending physician will receive an automated email link connecting them to their assigned Attending Evaluation within Medtrics.

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Attendings will be able to electronically access and submit the Attending Evaluation of the Student. Attendings will access the electronic form within Medtrics by selecting the email link on a smart device. No login (username/password) will be required for attendings to access their pending evaluation(s) assigned to them. After the electronic form has been submitted by their attending, students can review the Attending Evaluation of the Student that were completed by visiting the 'Evaluations' module (in the 'About Me' tab) of their Medtrics profiles.

Students are encouraged to seek formative/verbal feedback on their performance at least weekly. Students are also encouraged to discuss the Attending Evaluation of the Student with the supervisor completing the evaluation.

Any evidence of tampering or modification while in the possession of the student will be considered "unprofessional behavior" and will be referred to the Committee on Student Evaluation (COSE).

Student Evaluation of Clerkship Rotation

Students will submit their rotation evaluations electronically at the conclusion of every rotation by accessing the Medtrics system:

<https://msucom.medtricslab.com/users/login/>. By the last week of each rotation, students will receive an automated email link connecting them to their assigned evaluation for the respective rotation. Students can also access their pending evaluations on the 'Home' or 'Evaluations' tabs within their Medtrics accounts.

Unsatisfactory Clinical Performance

The Instructor of Record will review/investigate a student's performance on a rotation when a concern is raised by the supervisor(s), and/or when the Attending Evaluation of Clerkship Student contains any below expectation marks within the professionalism area, any unsatisfactory written comments, or a total of two or more below average marks on the evaluation. After investigations, the Instructor of Record will determine a final grade for the student.

Professionalism concerns, as well as accolades, will also be referred to the MSUCOM Spartan Committee Clearinghouse for resolution, per MSUCOM's Common Ground Framework for Professional Conduct.

CORRECTIVE ACTION

The following assignments are eligible for corrective action. Students who were not successful on these assignments during the course will receive an NGR grade and be permitted to go through a 'corrective action' process. Corrective Action will be due no later than 14 days after the last day of the rotation at 11:59pm:

- Learning Assignment Quizzes
- Patient Logs
- Shift Schedule

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The steps of the “Corrective Action” process for IM 665 Emergency Medicine quizzes are as follows:

1. The student will have two attempts to score 75%. The highest score of the two attempts will be the score that is counted.
2. If the student does not score at least 75% on either attempt, the faculty will review the content missed on both quizzes and provide individualized feedback as to where the student needs to focus.
3. The student will then be assigned a paper to write. Faculty will assign the topic.

The student is responsible for contacting the Course Assistant (on the title page of this syllabus) if they believe missing assignments were reported in error, or if they are unclear about the corrective action process.

While it is the responsibility of the student to ensure that the Attending Evaluation of Clerkship Student is completed, this requirement may extend beyond the corrective action deadline.

If a student **successfully completes** the corrective action process, as determined by the IOR, the student will receive credit for the deficient academic grading requirement(s) and be eligible for a change in rotation grade (from NGR to Pass, pending the Attending Evaluation of Clerkship Student)

As determined by the IOR, the student will receive an N grade for the course if all assignments and the corrective action process are **not completed** successfully within 14 days after the last day of rotation at 11:59pm (except for the Attending Evaluation). Additionally, a letter of unprofessional behavior for late submission of assignments will be sent to the MSUCOM Spartan Community Clearinghouse.

BASE HOSPITAL REQUIREMENTS

Students are responsible for completing all additional requirements set by the hospital/clinical site at which they are completing a rotation. Students are not responsible for reporting to MSUCOM the results of any requirements that exist outside of those listed above.

COURSE GRADES

All rotation requirements must be completed to determine a grade for the course. Students are required to ensure their rotation requirements are completed and submitted correctly.

P/Pass – means that credit is granted, and that the student achieved a level of performance judged to be satisfactory by the department according to the student’s didactic and clinical performance.

NGR/No Grade Reported – means that a final grade (‘Pass’ or ‘No Grade’) cannot be determined due to one or more missing course requirements. The NGR grade will be changed to a final grade once all the completed course requirements have been

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submitted to and processed by MSUCOM (either to the department or Clerkship Team).
An 'NGR' grade will NOT remain on a student's transcript.

N/No Grade – means that no credit is granted, and that the student did not achieve a level of performance judged to be satisfactory by the department according to the student's didactic and clinical performance.

N Grade Policy

Students who fail this rotation will have to repeat the entire rotation and fulfill all (clinical and academic) requirements.

STUDENT RESPONSIBILITIES AND EXPECTATIONS

SPECIAL CONSIDERATIONS

1. Medicare Cases Per HCFA regulations: Medical students may not perform the primary documentation on the chart of a patient with Medicare Insurance if the department wishes to obtain reimbursement for this care. Medical students may participate in the care of these patients but may not be the primary caregiver. There may be other special types of insurance that has the same rules in the area where you are performing your emergency department rotation, and you must follow the department rules regarding who you may and may not see.
2. Special Cases: Due to the delicate nature and legal issues, alleged criminal sexual conduct, assault and child abuse cases are not to be seen by students rotating in the emergency department. If during a patient encounter you suspect such is the case, notify the attending physician immediately and remove yourself from the care of this patient. Do not write on this patient's chart.
3. Sharps: After using suture trays, all sharps must be disposed of in the appropriate manner and the tray brought to the dirty utility room. This is a responsibility of the person performing the procedure and you must take care to remove all sharp instruments to avoid injury to your coworkers.
4. Keys to Good Care: See a limited number of patients and give them exceptional care. At all times know the status and results of all labs and x-rays. Constantly reassess your patients and update them of their status in the process. Your attending physician should be able to easily access information through you. In short, take full responsibility for all aspects of the patient's care.

During the 4 weeks of the rotation, the student is required to meet clinical and academic responsibilities:

- *The student **will** meet the following **clinical responsibilities** during this rotation:*
 - Students are expected to function collaboratively on health care teams which include health professionals from other disciplines in the provision of quality, patient-centered care.
- *The student **will** meet the following **academic responsibilities** during this rotation:*

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- Students are expected to identify, access, interpret and apply medical evidence contained in the scientific literature related to patients' health problems.
- Students are expected to: assess their personal learning needs specific to this clinical rotation, engage in deliberate, independent learning activities to address their gaps in knowledge, skills, or attitudes; and solicit feedback and use it daily to continuously improve their clinical practice. **Each patient is an opportunity for self-directed learning.**
- All work completed for submission must be completed independently and be the work of the individual student.

Meeting or not meeting the above responsibilities will be used by the instructor of record in the determination of the final grade in the course.

LEARNING ACTIVITIES

Learning activities will vary among hospital emergency departments; however, certain activities should be completed in each emergency medicine clerkship. The following are examples of learning activities each student should accomplish when on an emergency medicine clerkship:

1. **READING:** See Reading List for each Learning Assignment.
2. **HISTORY AND PHYSICAL REVIEW:** An important portion of your learning will be in the evaluation of patients while obtaining historical data and performing physical examinations. For each patient, this information will be reviewed with an intern, resident, or attending physician. As each patient is unique in their historical and physical characteristics they should provide ample opportunity for **self-directed learning**, leading to discussion of variation, natural or otherwise, among the patient population served at your rotation institution.
3. **LECTURES:** Lectures on various topics are usually given at least once a week. They are intended to provide up-to-date information on clinical and research findings and techniques in various fields. They may be given by a guest speaker who is an expert on the topic. If your hospital has a mid-day or other regular lecture program, you are expected to attend.

IM 665 is the course number given to any general emergency medicine elective following your core IM 657 rotation, and therefore you must follow the directions carefully to be completing the correct items to receive your grade. Each subsequent rotation will have the same IM 665 course number, but the materials required to be completed for a passing grade will be different for each. Materials must be placed in the correct dropbox to be counted as complete. You may not do more than five elective rotations in any one specialty.

ATTIRE AND ETIQUETTE

During your clinical rotation, you will be a part of many different learning environments and will be given a great deal of responsibility. Importantly, most of your patients will consider you a critical member of the medical team and see you as a physician. Given this, it is vital that a high level of professional behavior is maintained.

Outward appearance is particularly important in this regard and is critical for initial impressions and for gaining the respect of your patients. For this reason, please adhere to the following dress code during your clerkship:

- Men should routinely dress in slacks, as well as a shirt with tails tucked in.
- Women should wear skirt or slacks. Skirts should be of a length that reaches the knees or longer.
- No blue jeans are allowed during any rotation.
- Tennis shoes should not be worn, except with scrubs.
- No open toe shoes, flip-flops, or sandals are allowed at any time. Socks are always a public health code requirement.
- Scrubs are provided for situations where extended periods of patient care necessitate more comfortable clothing or a change in clothing.
- At ALL times when patient contact is expected or anticipated, your waist-length WHITE COAT will be worn, with your ID badge worn above the waist.
- As this policy simply represents general guidelines, we encourage anyone with uncertainties or questions regarding the dress code to reach out to the student director for confirmation.
- Wear a waterproof gown when blood or body fluid may soak a cloth gown.
- If you accidentally have blood or body fluids splattered on your clothing, at the next convenient time, you should excuse yourself, change into hospital scrubs, and put your contaminated clothing in a separate bag for later laundering.

MSU COLLEGE OF OSTEOPATHIC MEDICINE STANDARD POLICIES

The following are standard MSUCOM policies across all Clerkship rotations.

CLERKSHIP ATTENDANCE POLICY

MSUCOM requires student participation in clerkship rotations and clinical activities with consistent attendance to acquire the skills and knowledge necessary for successful program completion. This policy will define the policy and procedures regarding absences for clerkship activities. [Policy - Clerkship Absence 2025.pdf](#)

POLICY FOR MEDICAL STUDENT SUPERVISION

The MSUCOM curriculum includes required clinical experiences in a variety of clinical learning environments. The Medical Student Supervision Policy outlines all supervision agreements and expectations. [Clerkship Medical Student Supervision Policy.pdf](#)

MSUCOM STUDENT HANDBOOK

The Student Handbook is published electronically by MSUCOM for students in the Doctor of Osteopathic Medicine program. This handbook does not supersede other Michigan State University or College of Osteopathic Medicine policies, regulations, agreements, or guidelines. <https://osteopathicmedicine.msu.edu/current-students/student-handbook>.

COMMON GROUND FRAMEWORK FOR PROFESSIONAL CONDUCT

The Common Ground Framework provides the MSUCOM community with a reminder of the unity of mind, body, and spirit that underlines the field of osteopathic medicine. The framework is a set of guiding, foundational principles that underpin professional conduct and integrity and applies to all professionals at work within the shared college community, independent of their specific roles or responsibilities.

<https://osteopathicmedicine.msu.edu/about-us/common-ground-professionalism-initiative>

MEDICAL STUDENT RIGHTS AND RESPONSIBILITIES

The rights and responsibilities of students enrolled in MSUCOM are defined by the medical colleges of Michigan State University, including the College of Osteopathic Medicine, the College of Human Medicine, and the College of Veterinary Medicine. Students enrolled in the professional curricula of these colleges are identified as “medical students.” These colleges collectively define “Medical Student Rights and Responsibilities” (MSRR). This document addresses academic rights and responsibilities, governance, procedures for complaints, due process, and other topics. The current version is available on the MSU Spartan Life website at the address below: <http://splife.studentlife.msu.edu/medical-student-rights-and-responsibilities-mssr>

MSU EMAIL

MSU email is the official communication from faculty and staff to students and students are responsible for checking it daily and maintaining their MSU email accounts so that messages can be received. Students are responsible for responding to email in a timely manner or as otherwise outlined in course communication.

Forwarding MSU email to another email account or failure to check email are not valid excuses for missing a deadline or other requirements of the DO program.

Please Note: Student D2L email addresses must be forwarded to your MSU email account.

Further, students must use secure email when working in a hospital, clinic, or other health care setting if discussion of patient information is involved. MSUNet (msu.edu) email is secure; many web-based email systems including Hotmail, Gmail, and Yahoo are not. <https://osteopathicmedicine.msu.edu/current-students/student-handbook>.

DUTY HOURS AND FATIGUE MITIGATION

The accreditation standards for graduate medical education programs include restrictions on the duty hours of residents. Additionally, institutions are expected to promote a clinical learning environment in which duty hours are monitored and strategies exist to mitigate the effects of fatigue. [Clerkship Duty Hours and Fatigue Mitigation Policy.pdf](#)

STUDENT EXPOSURE PROCEDURE

A protocol has been developed by the University Physician to report incidents of exposure, e.g., needle sticks, mucous membrane exposure, tuberculosis exposure, etc., and it may be found here:

<https://osteopathicmedicine.msu.edu/current-students/clerkship-medical-education/injury-and-property-damage-reports>

Contact Associate Dean for Clerkship Education, Dr. Susan Enright (enright4@msu.edu), if exposure incident occurs.

STUDENT ACCOMMODATION LETTERS

Michigan State University is committed to providing equal opportunity for participation in all programs, services, and activities. Requests for accommodations by persons with disabilities may be made by contacting the Resource Center for Persons with Disabilities (RCPD) at 517-884-RCPD, or on the web at www.rcpd.msu.edu. Once a student's eligibility for (clinical and/or testing) accommodation(s) are determined, the student may be issued an Accommodation Letter. Students must present their letter to the Clerkship Team (COM.Clerkship@msu.edu) at the start of the semester in which they intend to use their accommodations (for tests, projects, labs, etc.). Accommodation requests received after the semester onset will be honored whenever possible.

If modifications, updates, or extensions to an existing letter are made after the semester begins, it is the responsibility of the student to submit the newest version to the Clerkship Team if he/she intends to utilize the accommodation going forward.

SUMMARY OF GRADING REQUIREMENTS

*For any below information requiring an item be uploaded to D2L, students must ensure it is put into the correct folder within the correct section for their course.

Requirement	Submission Method	Pass	No Grade Reported	No Pass
Mid Rotation Feedback Form	Submit via D2L	<ul style="list-style-type: none"> Completed, scanned, and uploaded to D2L. Must be 100% complete and needing no revisions by 11:59 pm on the 3rd Sunday of the rotation. 	Will be the conditional grade until all requirements of this rotation are met.	Failure to complete 100% and upload by 14 days after the last day of the rotation at 11:59 pm
Learning Assignment Quizzes •Must achieve 75% or higher on all four quizzes, within two attempts	Taken in D2L	Completed and submitted by 11:59 pm on the last Sunday of Rotation; 75% required to pass (within two attempts)	Will be the conditional grade until all requirements of this rotation are met	Failure to complete and submit within 14 days from the end of the rotation at 11:59 pm
EM Shift Schedule (must be the schedule you worked, not what you were scheduled to work)	Online D2L Drop Box	Submitted by 11:59 pm on the last Sunday of Rotation. NOT to be submitted before the last Friday of the rotation, and must be the schedule you worked, not what you were scheduled to work	Will be the conditional grade until all requirements of this rotation are met	Failure to complete and submit within 14 days from the end of the rotation at 11:59 pm
Patient Types and Procedure Log •Make sure you use the log for EM elective rotations, NOT the log from the Core IM 657 EM rotation	Upload into D2L Drop Box	Submitted by 11:59 pm on the last Sunday of Rotation	Will be the conditional grade until all requirements of this rotation are met	Failure to complete and submit within 14 days from the end of the rotation at 11:59 pm
Only required the third time taking IM 665: 'One Pill Can Kill' table	Online D2L Drop Box	Submitted by 11:59 pm on the last Sunday of Rotation	Will be the conditional grade until all requirements of this rotation are met	Failure to complete and submit within 14 days from the end of the rotation at 11:59 pm

Requirement	Submission Method	Pass	No Grade Reported	No Pass
<i>Only required the fifth time taking IM 665:</i> 'Substances that Cause Toxicology Induced Agitation' table	Online D2L Drop Box	Submitted by 11:59 pm on the last Sunday of Rotation	Will be the conditional grade until all requirements of this rotation are met	Failure to complete and submit within 14 days from the last day of the rotation
Attending Evaluation of Clerkship Student	Attendings receive an automated email link connecting them to their assigned evaluation(s) within Medtrics, where they may access and submit the electronic form(s) directly	<ul style="list-style-type: none"> • Student may receive "Below Expectations" in up to one (1) subcategory. • Overall categories must receive "Meets Expectations" or "Exceeds Expectations" 	Will be the conditional grade until all requirements of this rotation are met	<ul style="list-style-type: none"> • Receives two (2) or more "Below Expectations" within the subcategory sections. • Receives comments that indicate below expectations of performance. • See Unsatisfactory Clinical Performance above
Student Evaluation of Clerkship Rotation	Can be accessed and submitted electronically by students within the dashboard of their Medtrics profiles	Completed 100% by 11:59 pm the last day of the rotation	Will be the conditional grade until all requirements of this rotation are met.	Failure to complete and submit within 14 days from the last day of the rotation



College of Osteopathic Medicine
MICHIGAN STATE UNIVERSITY

MID-ROTATION FEEDBACK FORM

Rotation Name: _____

Student Name: _____

Evaluator Name: _____

Evaluator Signature: _____

Date of review with Student: _____

1. This assessment is based on:

- ☐ My own observations and interactions with the student.
☐ Feedback received from other faculty and/or resident supervisors.

2. The student is progressing satisfactorily for their level of training:

☐ YES ☐ NO

If NO, please summarize areas needing improvement below:

3. Overall comments on student performance

Strengths:	Areas of Improvement:

4. Professionalism expectations are listed below. Please check only areas of student **DIFFICULTY**:

<input type="checkbox"/>	On time for all activities of the rotation	<input type="checkbox"/>	Present/Prepared for all activities of rotation
<input type="checkbox"/>	Respectful/courteous to patients, staff, peers, attending's	<input type="checkbox"/>	Student is aware of limitations and appropriately seeks assistance when needed
<input type="checkbox"/>	A great team player (helpful, reliable, proactive)	<input type="checkbox"/>	Accepting of feedback and made necessary changes because of the feedback
<input type="checkbox"/>	Engaged in learning	<input type="checkbox"/>	Honest and trustworthy
<input type="checkbox"/>	A good patient advocate	<input type="checkbox"/>	Work ethic

APPENDIX 1 -- IM 665 ELECTIVE ROTATION #1

The following four Learning Assignments are to be completed during your first IM 665 Elective Rotation. Make sure that when you log in to D2L, you complete the learning assignments and quizzes for Elective #1.

You will take one quiz in D2L after each Learning Assignment, so a total of four quizzes during the rotation. You must score at least 75% on each quiz to pass. You will have two attempts to achieve a score of 75%.

Rotation #1 - Learning Assignment #1: Introduction to Ultrasound (NB)

Objectives

By the end of this learning assignment, a 4th year medical student will be able to:

1. Differentiate between B-mode and M-mode ultrasound modalities.
2. Identify the purposes of the FAST Exam
3. Identify the 4 positions of the FAST exam.
4. Describe the appearance of free intraperitoneal fluid on an ultrasound image.
5. Identify sufficient ultrasound image findings that can exclude an ectopic pregnancy in a low risk, non-fertility treatment pregnant female presenting with abdominal pain and bleeding.
6. Identify ultrasound findings suggestive of an ectopic pregnancy.

Reading List

Read the following chapters in Ma and Mateer's Emergency Ultrasound, 4th ed, McGraw-Hill 2021:

1. Chapter 3: The Science of Image Generation:
<https://accessemergencymedicine-mhmedical-com.proxy2.cl.msu.edu/content.aspx?bookid=2966§ionid=249997612>
2. Chapter 9: Trauma:
<https://accessemergencymedicine-mhmedical-com.proxy2.cl.msu.edu/content.aspx?bookid=2966§ionid=249992603>
3. Chapter 16: First Trimester Pregnancy:
<https://accessemergencymedicine-mhmedical-com.proxy2.cl.msu.edu/content.aspx?bookid=2966§ionid=249988928>

Questions to Ponder

- Ma and Mateer's Emergency Ultrasound, Chapter 9: Trauma (4th ed, 2021):
Review the cases presented as figures in 'COMMON AND EMERGENT ABNORMALITIES', 'COMMON VARIANTS AND SELECTED ABNORMALITIES', and 'PEARLS AND PITFALLS'

- <https://accessemergencymedicine-mhmedical-com.proxy2.cl.msu.edu/content.aspx?bookid=2966§ionid=249992603>

Rotation #1 - Learning Assignment #2: Toxicology: Introduction to the Poisoned Patient (MH)

Objectives

By the end of this learning assignment, a 4th year medical student will be able to:

1. State the basic principles of drug absorption, metabolism, and excretion.
2. State the components of the COMA cocktail.
3. Discuss the use of activated charcoal, including single and multiple doses, and its contraindications.
4. Discuss the use of sorbitol as a laxative and its contraindications.
5. Discuss the use of whole bowel irrigation and its indications.
6. Discuss the concept of half-life and what it means in terms of antidote treatment and monitoring.
7. Discuss the concept of fat soluble, water soluble and first pass effect in the context of an overdose.

Reading List

- Syllabus material provided in D2L.
- “Approach to the Toxicologic Emergency” -- PowerPoint slide presentation with narration; see link in D2L, or access directly in MediaSpace here:

https://mediaspace.msu.edu/media/IM665+-+Approach+to+the+Toxicologic+Emergency/1_1cnmoezi#

Questions to Ponder

Please review “Approach to the Toxicologic Emergency” PowerPoint presentation (see link above) for concepts to think about for this Learning Assignment.

Rotation #1 - Learning Assignment #3: Trauma: Introduction to the Traumatized Patient (MH)

Objectives

By the end of this learning assignment, a 4th year medical student will be able to:

1. Organize the evaluation of a trauma patient by primary survey, resuscitative phase, secondary survey, and definitive care.
2. List the components of primary survey, resuscitative phase, secondary survey, and definitive care.
3. List the components of the AMPLE history.
4. Be able to identify the clinical scenario of tension pneumothorax, cardiac tamponade, sucking chest wound, and flail chest.
5. Be able to identify the clinical scenario of a patient likely to have a splenic or hepatic injury with blood loss.
6. Be able to recognize the patient who has hypovolemic shock.
7. Be able to identify the differences in presentations between adults, children, and the elderly as it relates to traumatic conditions.

8. Be able to identify the differences between the adult female who is pregnant in various trimesters from the non-pregnant adult female who suffers a traumatic injury.

Reading List

- Read the following chapters in Tintinalli's Emergency Medicine: A Comprehensive Study Guide, 9th ed, McGraw-Hill 2020:
 - Pediatric Trauma (Section 12, Chapter 110):
<https://accessemergencymedicine-mhmedical-com.proxy2.cl.msu.edu/content.aspx?bookid=2353§ionid=219644072>
 - Trauma in Adults (Section 21, Chapter 254):
<https://accessemergencymedicine-mhmedical-com.proxy2.cl.msu.edu/content.aspx?bookid=2353§ionid=221180871>
 - Trauma in the Elderly (Section 21, Chapter 255):
<https://accessemergencymedicine-mhmedical-com.proxy2.cl.msu.edu/content.aspx?bookid=2353§ionid=221180950>
 - Trauma in Pregnancy (Section 21, Chapter 256):
<https://accessemergencymedicine-mhmedical-com.proxy2.cl.msu.edu/content.aspx?bookid=2353§ionid=221181031>
 - Pulmonary Trauma (Section 21, Chapter 261):
<https://accessemergencymedicine-mhmedical-com.proxy2.cl.msu.edu/content.aspx?bookid=2353§ionid=222406837>
 - Cardiac Trauma (Section 21, Chapter 262):
<https://accessemergencymedicine-mhmedical-com.proxy2.cl.msu.edu/content.aspx?bookid=2353§ionid=222407000>
 - Abdominal Trauma (Section 21, Chapter 263):
<https://accessemergencymedicine-mhmedical-com.proxy2.cl.msu.edu/content.aspx?bookid=2353§ionid=222323983>

Questions to Ponder

- Does blood pressure alone define hypovolemic shock in the patient with a traumatic injury?
- Be able to identify different activities that are appropriate to be conducted during the primary survey, resuscitative phase, secondary survey, and definitive care.
- Differentiate the typical presentations for pediatric and geriatric trauma patients and why they might be different from the typical adult patient.
- Why is it important to resuscitate the mother before the baby?
- What are the normal respiratory changes in pregnancy?
- Which procedures need to be performed differently in the pregnant patient?

Rotation #1 - Learning Assignment #4: Pediatrics: Approach to the Febrile Child (NB)

Objectives

By the end of this learning assignment, a 4th year medical student will be able to:

1. Define the neonatal period.
2. Define a fever in terms of temperature and method of obtaining.
3. Recognize hypothermia as a sign of sepsis in the neonatal period.
4. State the appropriate evaluation for a febrile neonate.
5. Identify characteristics that characterize febrile children >3mo old to have low risk for SBI.
6. Explain the mechanisms humans use to maintain thermoregulation.
7. Identify signs and symptoms that indicate toxicity in children.
8. State the appropriate emergent management for children who are exhibiting signs or symptoms of toxicity.
9. Identify risk factors in otherwise well appearing children that place them at risk for serious bacterial infection.

Reading List

- Read the following chapters in Strange and Schafermeyer's Pediatric Emergency Medicine, 5th ed, McGraw-Hill 2019:
 - The Febrile or Septic-Appearing Neonate (Chapter 2):
<https://accessemergencymedicine-mhmedical-com.proxy2.cl.msu.edu/content.aspx?bookid=2464§ionid=194747528>
 - The Febrile or Septic-Appearing Infant or Child (Chapter 3):
<https://accessemergencymedicine-mhmedical-com.proxy2.cl.msu.edu/content.aspx?bookid=2464§ionid=194747553>

Questions to Ponder

- Access Emergency Medicine: Case Files: Emergency Medicine, 5th ed, Case #32: Fever Without a Source in the 1-to-3-Month-Old Infant:
<https://accessemergencymedicine.mhmedical.com/CaseContent.aspx?qbosID=606061&qbosContainerID=309&viewByNumber=false&groupid=388#275335587>

APPENDIX 2 -- IM 665 ELECTIVE ROTATION #2

The following four Learning Assignments are to be completed during your second IM 665 Elective Rotation, whenever that occurs. Make sure that when you log in to D2L, you complete the learning assignments and quizzes for Elective #2.

You will take one quiz in D2L after each Learning Assignment, so a total of four quizzes during the rotation. You must score at least 75% on each quiz to pass. You will have two attempts to achieve a score of 75%.

Rotation #2 - Learning Assignment #1: Review of Anticoagulant Medications: Their Indications, Contraindications, and Antidotes (NB)

Objectives

By the end of this learning assignment, a 4th year medical student will be able to:

1. Identify the location of action of warfarin, Xa Inhibitors, heparin, low molecular weight heparins, and fibrinolytics on the coagulation cascade.
2. Describe the mechanism of action of antiplatelet medications.
3. Determine the pharmaceutical management for a patient with an elevated INR in the presence and absence of bleeding.
4. Identify the indications for vitamin K, platelets, fresh frozen plasma, and Prothrombin complex concentrate (PCC)

Reading List

- Read the following chapters in Tintinalli's Emergency Medicine: A Comprehensive Study Guide, 9th ed, McGraw-Hill 2020 – in Section 18 (Hematologic and Oncologic Disorders):
 - Hemostasis (Section 18, Chapter 232):
<https://accessemergencymedicine-mhmedical-com.proxy2.cl.msu.edu/content.aspx?bookid=2353§ionid=215042278>
 - Thrombotics and Antithrombotics (Section 18, Chapter 239):
<https://accessemergencymedicine-mhmedical-com.proxy2.cl.msu.edu/content.aspx?bookid=2353§ionid=221179142>

Questions to Ponder

- For a more context-oriented overview, see the following chapters in Goldfrank's Toxicologic Emergencies, 11th ed (2019):
 - Hematologic Principles (chapter 20):
<https://accessemergencymedicine-mhmedical-com.proxy2.cl.msu.edu/content.aspx?bookid=2569§ionid=210268769>
 - Antithrombotics (chapter 58):
[https://accessemergencymedicine-mhmedical-](https://accessemergencymedicine-mhmedical-com.proxy2.cl.msu.edu/content.aspx?bookid=2569§ionid=210268769)

com.proxy2.cl.msu.edu/content.aspx?bookid=2569§ionid=210273520 (link verified 31-March-2025)

Rotation #2 - Learning Assignment #2: Toxicology: Acetaminophen, Aspirin, Alcohols (MH)

Objectives

By the end of this learning assignment, a 4th year medical student will be able to:

1. State the different rates of absorption of various salicylate containing products, and sources of salicylate besides aspirin.
2. Discuss the various stages of salicylate intoxication, and the assorted biochemical derangements that occur with each, including the various acid base disturbances.
3. Know the signs and symptoms of mild, moderate, and severe poisoning with salicylates.
4. Discuss the various modalities used to treat mild, moderate, and severe salicylate poisoning.
5. Know the recommended doses and potentially toxic doses of acetaminophen in adults and children.
6. Recognize the stages of acetaminophen poisoning.
7. Understand the use and limitations of the Rumack - Matthew nomogram in acetaminophen poisoning.
8. List the metabolic pathways of acetaminophen poisoning.
9. Select appropriate therapy for a patient with an acetaminophen overdose.
10. Diagram and understand the metabolism of ethanol, isopropyl alcohol, methanol, and ethylene glycol.
11. Know the signs and symptoms and timeline for consequences of ingestion of ethanol, isopropyl alcohol, methanol, and ethylene glycol.
12. Know the appropriate use of antidotes and treatment guidelines for ingestion of ethanol, isopropyl alcohol, methanol, and ethylene glycol.

Reading List

- Read the following chapters in Tintinalli's Emergency Medicine: A Comprehensive Study Guide, 9th ed, McGraw-Hill 2020 – in Section 15 (Toxicology):
 - Alcohols (Section 15, Chapter 185):
<https://com.proxy2.cl.msu.edu/content.aspx?bookid=2353§ionid=220744565>
 - Salicylates (Section 15, Chapter 189):
<https://com.proxy2.cl.msu.edu/content.aspx?bookid=2353§ionid=220744992>
 - Acetaminophen (Section 15, Chapter 190):
<https://com.proxy2.cl.msu.edu/content.aspx?bookid=2353§ionid=220745053>
- Acetaminophen (Chapter 114), in Strange and Schafermeyer's Pediatric Emergency Medicine, 5th ed, McGraw-Hill 2019 – (in Section 22 Toxicologic Emergencies):
 - <https://com.proxy2.cl.msu.edu/content.aspx?bookid=2464§ionid=196391273>

- Salicylate Overdose (Chapter 52), in Critical Care Emergency Medicine, 2nd ed, McGraw-Hill 2017 – (in Section IX Toxicologic Conditions):
 - <https://accessemergencymedicine-mhmedical-com.proxy2.cl.msu.edu/content.aspx?bookid=1934§ionid=142837864>
- Toxic Alcohols (Chapter 55), in Clinical Emergency Medicine, McGraw-Hill 2014 – (in Section X Toxicology):
 - <https://accessemergencymedicine-mhmedical-com.proxy2.cl.msu.edu/content.aspx?bookid=991§ionid=55139169>
- 10 Pitfalls of Salicylate Poisoning, Hebbard & Mullins, ACEP Now. Vol 43, No 03, March 2024:
<https://www.acepnow.com/article/10-pitfalls-of-salicylate-poisoning/>

Questions to Ponder

- Why does the nomogram not work for extended-release products or overdoses taken over a period of several hours for acetaminophen?
- Why do you need to alkalinize the urine on a patient with an aspirin overdose?
- Why do you need to do a complete physical exam on every intoxicated person, every time?
- What are household sources of methanol, ethylene glycol, and isopropyl alcohol?
- Not really an alcohol, but what compound is given off when methylene chloride (Chemical in paint stripper) is metabolized?

Rotation #2 - Learning Assignment #3: Pediatrics: Pediatric Rehydration and Calculation of Fluids and Electrolytes (NB)

Objectives

By the end of this learning assignment, a 4th year medical student will be able to:

1. Identify the gold standard for determining and quantifying dehydration in children.
2. Differentiate between minimal, moderate, and severe dehydration in children.
3. Differentiate between patients that are suitable for oral rehydration therapy (ORT) vs patients suitable for IV hydration.
4. Calculate the volume of fluids required for fluid resuscitation in acutely dehydrated children based on body weight.
5. Identify the common additives to rehydration fluids.
6. Calculate weight-based administration of maintenance intravenous fluids using the 4-2-1 rule.
7. Describe the rationale for administration of glucose for dehydration due to gastroenteritis.
8. Determine which children need admission and which can be discharged safely after initial treatment for dehydration.

Reading List

- Read the following chapters in Tintinalli's Emergency Medicine: A Comprehensive Study Guide, 9th ed, McGraw-Hill 2020 – in Section 12 (Pediatrics):
 - Vomiting, Diarrhea, and Dehydration in Infants and Children (Section 12, Chapter 131): <https://accessemergencymedicine-mhmedical-com.proxy2.cl.msu.edu/content.aspx?bookid=2353§ionid=220290438>
 - Fluid and Electrolyte Therapy in Infants and Children (Section 12, Chapter 132): <https://accessemergencymedicine-mhmedical-com.proxy2.cl.msu.edu/content.aspx?bookid=2353§ionid=211003069>

Questions to Ponder

Should children less than age 18 be given a phenothiazine to stop their nausea and vomiting? These are commonly used medications in adults and come in suppository form. Why or why not?

Rotation #2 - Learning Assignment #4: Trauma: Mild Traumatic Brain Injury and Management: Concussion Management and PECARN Head CT Rules (MH)

Objectives

By the end of this learning assignment, a 4th year medical student will be able to:

1. Apply the PECARN head CT rules in children.
2. Define concussion.
3. List common sequelae of concussion.
4. Apply return to activity guidelines for patients recovering from a concussion.
5. Discuss the process of reading a head CT for trauma.
6. Know the components and classifications of the Glasgow Coma Scale
7. Discuss the classification of head injury into mild, moderate, severe, primary, and secondary.
8. Know the relationship between mean arterial pressure, systolic and diastolic blood pressure, intracranial pressure, and cerebral perfusion pressure.
9. Identify patterns of head injury based on clinical examination.

Reading List

- Head Trauma (Chapter 257), in Tintinalli's Emergency Medicine: A Comprehensive Study Guide, 9th ed, McGraw-Hill 2020 – (in Section 21 Trauma):
 - <https://accessemergencymedicine-mhmedical-com.proxy2.cl.msu.edu/content.aspx?bookid=2353§ionid=221181086>
- Head Injuries (Chapter 85), in Clinical Emergency Medicine, McGraw-Hill 2014 – (in Section XVI Trauma):
 - <https://accessemergencymedicine-mhmedical-com.proxy2.cl.msu.edu/content.aspx?bookid=991§ionid=55139205>
- How to Read a Head CT in a Patient with Head Trauma (Chapter VI 3), in Emergency Radiology: Case Studies, McGraw-Hill 2008 – (in Part 6 Head CT):

- <https://accessemergencymedicine-mhmedical-com.proxy2.cl.msu.edu/content.aspx?bookid=434§ionid=41825465>

Questions to Ponder

- Why does elevation of the head of the bed decrease ICP?
- What is the effect of maintaining the head in the midline versus turned to one side on ICP?
- Regarding clinical decision rules, understand that they never supersede the clinician at the bedside's exam and/or gestalt and are only guidelines.

APPENDIX 3 -- IM 665 ELECTIVE ROTATION #3

The following four Learning Assignments are to be completed during your third IM 665 Elective Rotation, whenever that occurs. Make sure that when you log in to D2L, you complete the learning assignments and quizzes for Elective #3.

You will take one quiz in D2L after Learning Assignments 1, 2, and 3, so a total of three quizzes during the rotation. You will have two attempts to achieve a score of 75% on each quiz.

In Learning Assignment #4, in lieu of a quiz and 'Questions to Ponder' you will fill out and upload to D2L a table of "One Pill Can Kill" toxins. Details are below, under Learning Assignment #4.

Rotation #3 - Learning Assignment #1: Metabolic Derangements: Diabetic Ketoacidosis, Hyperosmolar Non-Ketotic Coma, Electrolyte Disturbances Including Hyponatremia, Hyponatremia, Hyperkalemia, Hypokalemia (NB)

Objectives

By the end of this learning assignment, a 4th year medical student will be able to:

1. Differentiate between DKA and HONK
2. Compare venous and arterial pH testing in patients with DKA.
3. Discuss critical electrolyte abnormalities seen in both DKA and HONK
4. Describe the purpose of Kussmaul breathing.
5. Define appropriate treatment of DKA once hyperglycemia has resolved.

Reading List

- Diabetic Ketoacidosis (Chapter 225), in Tintinalli's Emergency Medicine: A Comprehensive Study Guide, 9th ed, McGraw-Hill 2020 – (in Section 17 Endocrine Disorders):
 - <https://accessemergencymedicine-mhmedical-com.proxy2.cl.msu.edu/content.aspx?bookid=2353§ionid=190079125>
- Diabetic Emergencies (Chapter 66), in Clinical Emergency Medicine, McGraw-Hill 2014 – (in Section XII Metabolic/Endocrine Emergencies):
 - <https://accessemergencymedicine-mhmedical-com.proxy2.cl.msu.edu/content.aspx?bookid=991§ionid=55139182>

Questions to Ponder

- Access Emergency Medicine: Case Files: Emergency Medicine, 5th ed, Case #5: Resuscitation > Diabetic Ketoacidosis:
<https://accessemergencymedicine-mhmedical-com.proxy2.cl.msu.edu/CaseContent.aspx?gbosID=60608&gbosContainerID=309&viewByNumber=false&groupid=388#275338910>

Rotation #3 - Learning Assignment #2: Toxicology: CNS Stimulants: Cocaine, Ecstasy, PCP, Crystal Meth, Bath Salts (MH)

Objectives

By the end of this learning assignment, a 4th year medical student will be able to:

1. List the drugs that are considered stimulants.
2. Understand the use of benzodiazepines in the management of the acutely agitated patient.
3. List the medications and chemicals that lead to hallucinations.
4. Understand the mechanism of hyponatremia and possible seizures from ecstasy.
5. Discuss cocaine related chest pain.
6. Understand the diagnostic scenario of cannabinoid hyperemesis syndrome.
7. Use the eye signs to help differentiate the various stimulants, especially those causing hallucinations.

Reading List

- Read the following chapters in Tintinalli's Emergency Medicine: A Comprehensive Study Guide, 9th ed, McGraw-Hill 2020:
 - Cocaine and Amphetamines (Section 15-Toxicology, Chapter 187):
<https://accessemergencymedicine-mhmedical-com.proxy2.cl.msu.edu/content.aspx?bookid=2353§ionid=220744818>
 - Hallucinogens (Section 15-Toxicology, Chapter 188):
<https://accessemergencymedicine-mhmedical-com.proxy2.cl.msu.edu/content.aspx?bookid=2353§ionid=220744899>
 - Acute Agitation (Section 24-Psychosocial Disorders, Chapter 287):
<https://accessemergencymedicine-mhmedical-com.proxy2.cl.msu.edu/content.aspx?bookid=2353§ionid=222326340>
- Cannabinoid Hyperemesis: A Case Series of 98 Patients: Simonetto D et al, Mayo Clinic Proceedings, vol 87, issue 2, February 2012:
 - [https://www.mayoclinicproceedings.org/article/S0025-6196\(11\)00026-7/pdf](https://www.mayoclinicproceedings.org/article/S0025-6196(11)00026-7/pdf)
- Cocaine Toxicity: Burnett L, in Medscape, January 2024:
 - <https://emedicine.medscape.com/article/813959-overview>

Questions to Ponder

- Which class of antibiotics is known to cause hallucinations in the elderly?
- What one question can you ask that may get at the cause of intractable nausea and vomiting being related to excess cannabinoid ingestion in any form?
- What is the responsibility of the clinician if a child presents with obvious exposure to drugs of abuse?

Rotation #3 - Learning Assignment #3: Trauma: Environmental: Heat, Cold, Burns (MH)

Objectives

By the end of this learning assignment, a 4th year medical student will be able to:

1. Define trench foot, chilblains, hypothermia, and the stages of frostbite.
2. Discuss the management of trench foot, chilblains, hypothermia, and the stages of frostbite.
3. Discuss the common rhythm disturbances seen with hypothermia.
4. Recognize an Osborn J wave as a marker of hypothermia.
5. Calculate percent body surface area burned.
6. Calculate fluid requirements for the first 24 hours for a burn victim.
7. Differentiate prickly heat, heat exhaustion and heat stroke.
8. Understand the mechanisms by which the body dissipates excess heat.

Reading List

- Read the following chapters in Tintinalli's Emergency Medicine: A Comprehensive Study Guide, 9th ed, McGraw-Hill 2020 (in Section 16 – Environmental Injuries):
 - Cold Injuries (Section 16, Chapter 208):
<https://accessemergencymedicine-mhmedical-com.proxy2.cl.msu.edu/content.aspx?bookid=2353§ionid=220746407>
 - Hypothermia (Section 16, Chapter 209):
<https://accessemergencymedicine-mhmedical-com.proxy2.cl.msu.edu/content.aspx?bookid=2353§ionid=220746470>
 - Heat Emergencies (Section 16, Chapter 210):
<https://accessemergencymedicine-mhmedical-com.proxy2.cl.msu.edu/content.aspx?bookid=2353§ionid=220746545>
- Cold-Induced Tissue Injuries (Chapter 62), in Clinical Emergency Medicine, McGraw-Hill 2014 – (in Section XI Environmental Emergencies):
 - <https://accessemergencymedicine-mhmedical-com.proxy2.cl.msu.edu/content.aspx?bookid=991§ionid=55139177>
- Hyperthermic Patient Management (Chapter 227), in Reichman's Emergency Medicine Procedures, 3rd ed, McGraw-Hill 2019 – (in Section 16 Miscellaneous Procedures):
 - <https://accessemergencymedicine-mhmedical-com.proxy2.cl.msu.edu/content.aspx?bookid=2498§ionid=201303956>
- Seizure Secondary to Heat Stroke (Case #51), in Case Files: Emergency Medicine, 5th ed, McGraw-Hill 2023:
 - <https://accessemergencymedicine-mhmedical-com.proxy2.cl.msu.edu/CaseContent.aspx?gbosID=606042&gbosContainerID=309&viewByNumber=false&groupid=0#275333065>
- Review MediaSpace recording for dermatology on Heat and Cold Emergencies:

- https://mediaspace.msu.edu/media/Dermatologic+Emergencies++-+Heat+and+Cold+Injuries+-+Hughes/1_22s5tjd4
- Above link is also available in D2L

Questions to Ponder

Think about the medications patients are on and which may make it difficult to thermoregulate.

Rotation #3 - Learning Assignment #4: Pediatrics: Pediatric Poisoning (NB)

Objectives

By the end of this learning assignment, a 4th year medical student will be able to:

1. Identify at least 10 (ten) toxins of which the ingestion of a single pill or a single swallow can be lethal to a pediatric patient less than 2 years of age.

Reading List

- 'Pediatric Principles,' Chapter 31 in Goldfrank's Toxicologic Emergencies, 11th ed (McGraw-Hill 2019) – (in Part B, The Fundamental Principles of Medical Toxicology → SECTION III: Special Populations → Chapter 31: Pediatric Principles):
- <https://accessemergencymedicine-mhmedical-com.proxy2.cl.msu.edu/content.aspx?bookid=2569§ionid=210270170>
- 'The Evaluation and Management of Poisoning in Children: General Approach and GI Decontamination' in Atlas of Pediatric Emergency Medicine, 3rd Ed (McGraw-Hill 2019) – (in Chapter 17, Toxicology):
- <https://accessemergencymedicine-mhmedical-com.proxy2.cl.msu.edu/content.aspx?bookid=2616§ionid=216057918#1162824968>
- Perform an independent internet search to identify at least 10 'One Pill Can Kill' toxins (see Assignment immediately following this)

Assignment: 'One Pill Can Kill'

See following page for table to fill out and submit to D2L. This assignment is in lieu of a quiz and 'Questions to Ponder.' There is no quiz for this learning assignment.

Complete and submit in D2L the completed table identifying at least 10 (more if possible) "One Pill Can Kill" toxins along with identifying the mechanism of action.

Student Name:		Date:
One Pill can Kill Table: Identify at least 10 (ten) toxins		
Toxin:	Mechanism of Action:	
1.		
2.		
3.		
4.		
5.		
6.		
7.		
8.		
9.		
10.		
11.		
12.		
13.		
14.		
16.		

APPENDIX 4 -- IM 665 ELECTIVE ROTATION #4

The following four Learning Assignments are to be completed during your fourth IM 665 Elective Rotation, whenever that occurs. Make sure that when you log in to D2L, you complete the learning assignments and quizzes for Elective #4.

You will take one quiz in D2L after each Learning Assignment, so a total of four quizzes during the rotation. You must score at least 75% on each quiz to pass. You will have two attempts to achieve a score of 75%.

Rotation #4 - Learning Assignment #1: Neurology: Stroke and Stroke Mimics (MH)

Objectives

By the end of this learning assignment, a 4th year medical student will be able to:

1. Identify the major vessel occlusion leading to the patient's symptoms.
2. Identify major causes of stroke mimics.
3. Prioritize assessment of the stroke patient
4. Identify syndromes associated with cervical artery dissections and their management.
5. Differentiate stroke from peripheral neurologic causes of symptoms.
6. Identify the indications and contraindications for thrombolytic therapy.
7. Define the last known well times.
8. Organize the appropriate testing evaluation of a patient presenting with neurologic deficits.
9. Use the NIH stroke scale.

Reading List

- Stroke Syndromes (Chapter 167), in Tintinalli's Emergency Medicine: A Comprehensive Study Guide, 9th ed, McGraw-Hill 2020 – (in Section 14 Neurology):
 - <https://accessemergencymedicine-mhmedical-com.proxy2.cl.msu.edu/content.aspx?bookid=2353§ionid=220293532>

Questions to Ponder

- What is the harm in giving thrombolytics to a patient with stroke symptoms who is not having a stroke but rather is having a stroke mimic?
- What are the indications and contraindications for thrombolytics?
- How long can I wait for laboratory studies to return if I am worried about a stroke mimic before thrombolytics are given?

Rotation #4 - Learning Assignment #2: Toxicology: CN, Hydrocarbons, Industrial Toxins, Volatile Gasses, Pesticides and Caustic Chemical Exposures (MH)

Objectives

By the end of this learning assignment, a 4th year medical student will be able to:

1. Identify the common presentations of CN, Hydrocarbons, volatile gasses, industrial toxins, pesticides, and caustic chemicals when patients are exposed.
2. Identify where to obtain the safety data sheet for a chemical.
3. State the treatment or management of all the above potential toxic exposures.
4. Identify antidotes for the above toxins were known or available.
5. Identify appropriate decontamination procedures for the above toxins.
6. Know the phone number for poison control.

Reading List

- Read the following chapters in Tintinalli's Emergency Medicine: A Comprehensive Study Guide, 9th ed, McGraw-Hill 2020 (in Section 15 – Toxicology):
 - Hydrocarbons and Volatile Substances (Section 15, Chapter 199):
<https://accessemergencymedicine-mhmedical-com.proxy2.cl.msu.edu/content.aspx?bookid=2353§ionid=220745702>
 - Caustic Ingestions (Section 15, Chapter 200):
<https://accessemergencymedicine-mhmedical-com.proxy2.cl.msu.edu/content.aspx?bookid=2353§ionid=220745757>
 - Pesticides (Section 15, Chapter 201):
<https://accessemergencymedicine-mhmedical-com.proxy2.cl.msu.edu/content.aspx?bookid=2353§ionid=220745825>
 - Industrial Toxins (Section 15, Chapter 204):
<https://accessemergencymedicine-mhmedical-com.proxy2.cl.msu.edu/content.aspx?bookid=2353§ionid=220746163>

Questions to Ponder

- Who should be able to help you sort out the potential toxicities when you are working alone?
- What should you do when you come upon a potential toxic spill in your workplace? Along the roadside?
- What is under your kitchen or bathroom, or laundry room sink that fits one of the categories we discussed in this Learning Assignment?

Rotation #4 - Learning Assignment #3: Trauma Radiology: Common Upper and Lower Extremity Injuries (BG)

Objectives

By the end of this learning assignment, a 4th year medical student will be able to:

1. Identify key principles to keep in mind when evaluating patients with extremity trauma.
2. Identify physical exam findings predictive of extremity fractures.
3. Identify important principles of radiographic evaluation of extremity trauma.
4. Identify common patterns, mechanisms, and associated nomenclature of extremity fractures.

Reading List

- Read the following chapters in Emergency Radiology: Case Studies, D Schwartz, McGraw-Hill 2008 – (in Part 3 Upper Extremity; and Part 4 Lower Extremity):
 - Skeletal Radiology: Upper Extremity (Section III):
<https://accessemergencymedicine-mhmedical-com.proxy2.cl.msu.edu/content.aspx?bookid=434§ionid=41825436>
 - Elbow Fat Pad – Monteggia Fracture (Chapter III-1):
<https://accessemergencymedicine-mhmedical-com.proxy2.cl.msu.edu/content.aspx?bookid=434§ionid=41825437>
 - Subtle Wrist Injuries (Chapter III-4):
<https://accessemergencymedicine-mhmedical-com.proxy2.cl.msu.edu/content.aspx?bookid=434§ionid=41825440>
 - Distal Radius Fractures – Galeazzi Fracture (Chapter III-5):
<https://accessemergencymedicine-mhmedical-com.proxy2.cl.msu.edu/content.aspx?bookid=434§ionid=41825441>
 - Ankle Fractures (Chapter IV-1):
<https://accessemergencymedicine-mhmedical-com.proxy2.cl.msu.edu/content.aspx?bookid=434§ionid=41825446>
 - Maisonneuve Fracture – The Mortise View (Chapter IV-2):
<https://accessemergencymedicine-mhmedical-com.proxy2.cl.msu.edu/content.aspx?bookid=434§ionid=41825447>
 - Knee Fractures – Tibial Plateau Fractures (Chapter IV-3):
<https://accessemergencymedicine-mhmedical-com.proxy2.cl.msu.edu/content.aspx?bookid=434§ionid=41825448>
 - Hip Fractures – Occult Hip Fracture (Chapter IV-4):
<https://accessemergencymedicine-mhmedical-com.proxy2.cl.msu.edu/content.aspx?bookid=434§ionid=41825449>

Questions to Ponder

Many small Emergency Departments do not have real-time radiology reads for plain x-rays. Would you feel confident interpreting x-rays you ordered for acute, traumatic injuries and formulating a short-term treatment plan based upon your own interpretation?

Rotation #4 - Learning Assignment #4: Pediatric Seizures and Their Management (NB)

Objectives

By the end of this learning assignment, a 4th year medical student will be able to:

1. Define Epilepsy
2. Identify factors that would lead a provider to admit a child with a first, unprovoked seizure.
3. Identify the appropriate laboratory and imaging workup for a patient presenting with a febrile seizure.
4. Identify the appropriate treatment and disposition for a patient presenting with a febrile seizure.
5. State the correct medications for a patient with status epilepticus.

Reading List

- Seizures (Chapter 53), in Strange and Schafermeyer's Pediatric Emergency Medicine, 5th ed, McGraw-Hill 2019 – (in Section 9 Neurologic Emergencies):
 - <https://accessemergencymedicine-mhmedical-com.proxy2.cl.msu.edu/content.aspx?bookid=2464§ionid=195170794>

Questions to Ponder

- Most parents who witness their child have a febrile seizure do not expect a seizure and think in the moment that their child is going to die. You then send the patient home with minimal workup. While that is the appropriate disposition, think about how you would approach the conversation and what facts/points would you highlight with these mortally terrified parents.
- There are multiple medications to use and there is no uniform agreed upon algorithm for which medications and in what sequence to abort a patient's status epilepticus. While on rotation, figure out what the institutional protocol and/or develop your own preferred protocol for which medications to use so in the moment when the patient is actively seizing, you are not reading a textbook trying to figure out what you want to do next.

APPENDIX 5 -- IM 665 ELECTIVE ROTATION #5

The following four Learning Assignments are to be completed during your fifth IM 665 Elective Rotation, whenever that occurs. Make sure that when you log in to D2L, you complete the learning assignments and quizzes for Elective #5.

You will take one quiz in D2L after Learning Assignments 1, 3, and 4, so a total of three quizzes during the rotation. You will have two attempts to achieve a score of 75% on each quiz.

In Learning Assignment #2, in lieu of a quiz and 'Questions to Ponder' you will fill out and upload to D2L a table of "Substances that Cause Toxicology Induced Agitation". Details are below, under Learning Assignment #2.

Rotation #5 - Learning Assignment #1: Psychiatry: Management of the Acutely Agitated Patient (NB)

Objectives

By the end of this learning assignment, a 4th year medical student will be able to:

1. State the purpose of using physical restraints for agitated patients.
2. Identify verbal de-escalation as the initial intervention when treating an agitated patient.
3. Determine the first line and second-line route of administration for medications for agitated patients.
4. Determine pharmacologic intervention for agitation based on the reason (intoxication vs delirium vs psychosis) of the agitation.

Reading List

- Acute Agitation (Chapter 287), in Tintinalli's Emergency Medicine: A Comprehensive Study Guide, 9th ed, McGraw-Hill 2020 – (in Section 24 Psychosocial Disorders):
 - <https://accessemergencymedicine-mhmedical-com.proxy2.cl.msu.edu/content.aspx?bookid=2353§ionid=222326340>

Questions to Ponder

Do you know the doses of the meds to give for acute agitation?

Rotation #5 - Learning Assignment #2: Toxicology: Differentiating Agitation Caused by Toxins Versus Psychosis (NB)

Objectives

By the end of this learning assignment, a 4th year medical student will be able to:

1. Differentiate clinically between toxicologic and non-toxicologic causes of acute agitation.
2. State the common substances, prescribed and illicit, that cause acute agitation.
3. State the medications used in patients with toxicology-induced agitation.

Reading List

- Read the following chapters in CURRENT Diagnosis & Treatment: Emergency Medicine, 8th ed, Stone & Humphries, McGraw-Hill 2017 – (in Part IV: Nontrauma Emergencies; Chapter 49: Psychiatric Emergencies):
 - Mental Status Changes:
<https://accessemergencymedicine-mhmedical-com.proxy2.cl.msu.edu/content.aspx?bookid=2172§ionid=165071095#1176297620>
 - Medication or Substance-Induced Syndromes:
<https://accessemergencymedicine-mhmedical-com.proxy2.cl.msu.edu/content.aspx?bookid=2172§ionid=165071095#1176297621>
- Read the following chapters in Goldfrank's Toxicologic Emergencies, 11th ed, Nelson et al, McGraw-Hill 2019:
 - Antihistamines and Decongestants (chapter 49):
<https://accessemergencymedicine-mhmedical-com.proxy2.cl.msu.edu/content.aspx?bookid=2569§ionid=210272449>
 - Thyroid and Antithyroid Medications (chapter 53):
<https://accessemergencymedicine-mhmedical-com.proxy2.cl.msu.edu/content.aspx?bookid=2569§ionid=210272832>
 - Cyclic Antidepressants (chapter 68):
<https://accessemergencymedicine-mhmedical-com.proxy2.cl.msu.edu/content.aspx?bookid=2569§ionid=210274664>
 - Amphetamines (chapter 73):
<https://accessemergencymedicine-mhmedical-com.proxy2.cl.msu.edu/content.aspx?bookid=2569§ionid=210259500>
 - Cocaine (chapter 75):
<https://accessemergencymedicine-mhmedical-com.proxy2.cl.msu.edu/content.aspx?bookid=2569§ionid=210259752>
 - Alcohol Withdrawal (chapter 77):
<https://accessemergencymedicine-mhmedical-com.proxy2.cl.msu.edu/content.aspx?bookid=2569§ionid=210259960>
 - Hallucinogens (chapter 79):
<https://accessemergencymedicine-mhmedical-com.proxy2.cl.msu.edu/content.aspx?bookid=2569§ionid=210260102>
 - Phencyclidine and Ketamine (chapter 83):
<https://accessemergencymedicine-mhmedical-com.proxy2.cl.msu.edu/content.aspx?bookid=2569§ionid=210260405>

Assignment: 'Substances that Cause Toxicology Induced Agitation'

See following page for table to fill out and submit to D2L. This assignment is in lieu of a quiz and 'Questions to Ponder.' There is no quiz for this learning assignment.

Complete and submit in D2L the completed table identifying at least 10 (more if possible) "Substances that Cause Toxicology Induced Agitation" along with Medications used to Decrease Agitation for each.

Student Name:		Date:
'Substances that Cause Toxicology Induced Agitation' Table: Identify at least 10 (ten) substances, and Medications to Decrease Agitation for each		
Substance:	Medication(s) to Decrease Agitation:	
1.		
2.		
3.		
4.		
5.		
6.		
7.		
8.		
9.		
10.		
11.		
12.		
13.		
14.		
16.		

Rotation #5 - Learning Assignment #3: Pediatrics: BRUE (MH)

Objectives

By the end of this learning assignment, a 4th year medical student will be able to:

1. List the criteria for diagnosis of a brief resolved unexplained event (BRUE)
2. List a broad differential for evaluation of a patient with a BRUE-like syndrome.
3. List the history and physical exam components that must be negative to meet the criteria for BRUE.
4. List admission criteria for BRUE-like syndrome patients.
5. Be able to list the Should, May, Need Not, and Should Not evaluation criteria for patients who meet the definition of low-risk BRUE.
6. List non-accidental trauma red flags and criteria for suspicion of non-accidental trauma.

Reading List

- Brief Resolved Unexplained Events and Apparent Life-Threatening Events (Chapter 117), in Tintinalli's Emergency Medicine: A Comprehensive Study Guide, 9th ed, McGraw-Hill 2020 – (in Section 12 Pediatrics):
 - <https://accessemergencymedicine-mhmedical-com.proxy2.cl.msu.edu/content.aspx?bookid=2353§ionid=189593642>
- Brief Resolved Unexplained Events (Chapter 4), in Strange and Schafermeyer's Pediatric Emergency Medicine, 5th ed, McGraw-Hill 2019 – (in Section 1 Cardinal Presentations):
 - <https://accessemergencymedicine-mhmedical-com.proxy2.cl.msu.edu/content.aspx?bookid=2464§ionid=194747606>
- Brief Resolved Unexplained Events (Formerly Apparent Life-Threatening Events) and Evaluation of Lower-Risk Infants, Tieder J et al, for the SUBCOMMITTEE ON APPARENT LIFE-THREATENING EVENTS (Clinical Practice Guideline), in Pediatrics, Volume 137, Issue 5, May 2016:
 - <https://publications.aap.org/pediatrics/article/137/5/e20160590/52195/Brief-Resolved-Unexplained-Events-Formerly?autologincheck=redirected>
- Standardizing the Evaluation of Nonaccidental Trauma in a Large Pediatric Emergency Department, Riney L et al, In Pediatrics, Volume 141, Issue 1, January 2018:
 - <https://publications-aap-org.proxy1.cl.msu.edu/pediatrics/article/141/1/e20171994/37706/Standardizing-the-Evaluation-of-Nonaccidental>

Questions to Ponder

How comfortable do you think you would be taking your infant home from the ED with no testing, just verbal reassurance, when they had just had a BRUE? We need to put ourselves in the role of the patient/caregiver presenting as well.

Rotation #5 - Learning Assignment #4: Urologic Emergencies (BG)

Objectives

By the end of this learning assignment, a 4th year medical student will be able to:

1. Identify etiology and management options for acute urinary retention.
2. Identify the acute infections, structural, and anatomic GU disorders that require emergent Urology consultation.
3. Understand the pathophysiology of renal and ureteral stone disease.
4. Identify findings in patients with renal and ureteral stone disease that would require emergent Urology consultation.
5. Learn to appropriately counsel patients on expectant stone management.

Reading List

- Read the following chapters in Tintinalli's Emergency Medicine: A Comprehensive Study Guide, 9th ed, McGraw-Hill 2020 (in Section 10 – Renal and Genitourinary Disorders):
 - Acute Urinary Retention (Section 10, Chapter 92):
<https://accessemergencymedicine-mhmedical-com.proxy2.cl.msu.edu/content.aspx?bookid=2353§ionid=215042056>
 - Male Genital Problems (Section 10, Chapter 93):
<https://accessemergencymedicine-mhmedical-com.proxy2.cl.msu.edu/content.aspx?bookid=2353§ionid=219643185>
 - Urologic Stone Disease (Section 10, Chapter 94):
<https://accessemergencymedicine-mhmedical-com.proxy2.cl.msu.edu/content.aspx?bookid=2353§ionid=219643294>

Questions to Ponder

A 25-year-old male presents to the ED with sudden onset severe scrotal pain that began 3 hours ago. What is your differential diagnosis, and how would you prioritize your evaluation and management to avoid irreversible complications?