EMC 461-01 Simulation Laboratory
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Course Description:
Application of emergency assessment and medical management skills using a human patient simulator.

Course Objectives:
1. To apply patient assessment and emergency treatment techniques using a human patient simulator.
2. To verify cognitive and psychomotor skill competencies.

Text:
None

Grading

Scenario performance (team leader)	60% (50% team leader, 5% radio report, 5% hospital report)
Scenario performance (assistant)	5%
Drug calculations	5%
Ambulance Call Report	10% (Due within 1 week of scenario)
Video reviews	10% (Due within 1 week of scenario)
Attendance/preparation/participation	10% (Includes participation in post-scenario discussion.)

Grading Scale:

90-100	A
80-89	B
70-79	C
60-69	D
<60	F

Attendance:
Attendance at all sessions is expected. The laboratory grade is based on attendance/participation, video reviews, scenario performance and mastery of skills. Because of the specialized nature of the lab there will be no possibility of make-up laboratory sessions. Each unexcused absence reduces the final course grade by 2 points. 2 tardy = 1 unexcused absence.

Scenarios
Your grade for each scenario will be based upon the following:
- Preparation of equipment
- Map reading and vehicle routing
- Patient Assessment
  - History of the Present Illness
  - PMH
  - Physical Exam
  - 12-lead interpretation (dysrhythmia, ST and T wave changes, axis, bundle branch blocks, hemiblocks, MI, and any other pertinent findings.
- Correct diagnosis
- Treatment plan
- Radio report
- Hospital report
- Decision-making and scene control, including interaction with the patient and his/her family and bystanders
- Discussion of pathophysiology, medications, treatment, etc.
- Drug calculations
- Affective Domain (dealing with family, teammates, communications, patient advocacy, etc.)

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Orientation to Simulation Laboratory

Equipment Check-off

The student scheduled as team leader for the first scenario of the day is responsible for assembling and checking all equipment, including the trauma bag, monitor, MAST, suction, radios, and oxygen. If you are the first team leader for the day, you should contact the instructor no later than 1 hour before class begins to get access to the lab. The equipment check-off accounts for a portion of your scenario grade. You will be responsible for restocking any supplies that are missing. In addition, it is important that a thorough check-off be performed because students whose scenario follows yours will not have an opportunity to perform a thorough check-off. Consequently, they are dependent upon you to ensure that all of their equipment and supplies are available and in proper working order. Once you've completed your equipment checkout, you must seal the trauma bag. You must then turn in your check sheet at the beginning of your scenario.

Team Leader

For each scenario, there will be an assigned team leader. The team leader is assumed to be functioning at the EMT-P level. The team leader operates under carte blanche standing orders (i.e., he/she can perform any procedure and administer any medication in any dose he/she chooses without prior approval of medical control). If you are the team leader and wish to administer a drug that is not contained in the trauma bag, indicate this to your instructor and the drug will be made available to you. Similarly, if you wish to perform a procedure for which you do not have the necessary equipment, that equipment will also be made available to you upon your request.

As team leader, you are responsible for all patient care and decisions at the scene. You will have two partners for each scenario. Your partners can perform within the EMT-I scope of practice, except that they cannot insert advanced airways or defibrillate. If you wish, you may delegate tasks to your partners, but you are responsible for their performance. Your partners will not be permitted to offer advice or perform any procedure without you directing them to do so.

Evolution of Scenarios

You will be given your present location (street intersection). You will then be dispatched by radio to the scene. You may ask dispatch for additional information, but no additional information will be available than what you would normally expect from the dispatcher. Next, you will locate your position on the map and highlight the route you would take to the location of the call. Once you've plotted your route, you will have approximately 15 minutes to complete the scenario.

As you arrive on the scene, the patient will be instructed on how to react to your physical exam and your questions. The patient will not offer any information; you must ask for all data you wish to know. You must also actually perform a physical exam; no physical exam findings will be provided unless you perform the tasks necessary to obtain those findings. For example, if you palpate the right leg and ask about pain, deformity and crepitus, that information will be provided to you. If you then state "I would also perform a similar exam on the other leg," but do not physically palpate the other leg, exam findings will not be provided, nor will you be prompted to assess the other leg. It is assumed that you didn't assess that leg. Similarly, if you are assessing the abdomen but only palpate one quadrant, you will be provided the assessment findings for that one quadrant only. You will not be prompted to assess the other quadrants and you will receive credit only for what you actually perform (i.e., there is no "talking through" or "dry labing" your assessment or treatment…if you didn't do it, it wasn't done, regardless of what you indicated verbally). The only exceptions are: 1) You do not have to actually start an IV; you merely have to set up the line and tape it to the patient's arm. 2) You do not have to actually administer medications; you merely pull the drug from the trauma bag and indicate the route and dosage you wish to administer. 3) You do not have to attach the 12-lead cables. Instead, you will receive the 12-lead printout after applying the adhesive dots to the chest in their proper locations. You must then verbalize your interpretation of the 12 lead, including: dysrhythmia, ST segment and T wave changes, axis, bundle branch blocks, hemiblocks, MI, and any other pertinent findings. 4) You do not have to calculate drug dosages during the scenario. You will be given an opportunity to calculate dosages following the scenario. For the purpose of grading, it is assumed that whatever dosage you calculate is what you administered, regardless of what you indicated verbally. For example, if you verbally indicated that you would administer 50 mg of lidocaine, but your dosage calculation indicated you would administer 10 cc of lidocaine packaged as 10mg/ml, you will be graded on what you actually administered, which is 100 mg and not 50 mg. In addition, you cannot

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change your dosage between the time you administered it in the scenario and when you calculate it later. In other words, "what you give is what you gave."

In the same vein as "if you didn't do it, it wasn't done," if you did it, it was most certainly done. In other words, you cannot reverse time. If, for example, you indicate that you would administer a certain dosage of a drug, you cannot reverse your decision later after you realize that you ordered an incorrect dose. Once you administer a drug, it is assumed to have been administered immediately and there is no reversing of time. By the same token, if you have performed some procedure that will affect future procedures or physical exam findings, there is no reversing of time. For example, if you apply the MAST garment and spinal immobilization prior to surveying the back and buttocks, you cannot reverse time and perform that assessment unless you are willing to remove the patient from the MAST and LSB. Similarly, if you administer D_{50} without checking a blood glucose level, you will not be permitted to reverse time to get a pre-dextrose CBG or draw pre-dextrose labs.

As you progress through the scenario, to the extent possible you will be presented with realistic responses to treatment. When you make a mistake, you should anticipate that your patient will deteriorate. However, just as in the field, even when treated appropriately some patients will not respond favorably. So while a deteriorating patient should prompt you to review your treatment for appropriateness, it does not necessarily mean that you made a mistake. Sometimes, patients die despite our best efforts and perfect treatment. Likewise, you should not expect miraculous recoveries. Just as most patients resuscitated from cardiac arrest do not present with normal mentation immediately following resuscitation, you should not expect as much from your simulated patients.

You are assumed to be on the scene until you secure your patient on the stretcher (except for Stevie Ray) and verbally indicate that you wish to initiate transport. In the setting of trauma, you must fully immobilize your patient on the LSB and secure the patient to the stretcher before you will be permitted to leave the scene. When using Stevie Ray, you will be marked "en route" as soon as you indicate so. Because most EMS systems do not permit family members to ride in the ambulance to the hospital, we will operate under the same protocol. Consequently, once you indicate you are en route to the hospital, family members are no longer able to answer any questions.

En route to the hospital, you will provide a brief radio encode (< 1 minute), followed by a full report to the ER staff upon your arrival.

Upon completion of the scenario, all students will quickly reset the equipment and restock used supplies in preparation for the next scenario. We will then discuss the scenario, including pathophysiology, review of drugs, etc. All students are expected to participate equally in the discussion.

Care of the Simulator

The skin of the simulator is easily soiled and difficult to clean. For this reason, all persons involved with the scenario must wear latex gloves (non-latex gloves if you have a latex allergy). Ink pens leave a permanent stain on the manikin, so if you wish to take notes during the scenario, you must do so with a pencil. At the end of the class, the last team leader is responsible for wiping off the manikin with acetone while his/her teammates restock the bag and reassemble other equipment.

Grading

Everyone is graded for each scenario, depending upon your role in the scenario. As team leader, you will be graded on the following:

- Preparation of equipment and sealing trauma bag
- Map reading and vehicle routing
- Patient Assessment
    - History of the Present Illness
    - PMH
    - Physical Exam
    - 12-lead interpretation (dysrhythmia, ST and T wave changes, axis, bundle branch blocks, hemiblocks, MI, and any other pertinent findings.
- Correct diagnosis

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- Treatment plan
- Radio report
- Hospital report
- Decision-making and scene control, including interaction with bystanders, the patient, and his/her family.
- Discussion of pathophysiology, medications, treatment, etc., following the scenario.
- Drug calculations
- Video self-review

As a partner of the team leader in the scenario, you will be graded on your technical proficiency in performance of skills, as well as adequacy of support for the team leader. In addition, you will be evaluated on your response to questions during the post-scenario discussion.

As an observer of the scenario, you will be evaluated on your response to questions during the post-scenario discussion.

All scenarios are graded exercises just as an exam would be graded in a traditional lecture course. Just as it would be an honor code violation to assist another student on a written exam, it is an honor code violation to prompt or provide assistance to the team leader. Similarly, you are not permitted to discuss the scenario outside of class since other students may be given the same scenario.

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