Simulation Case Evaluation Form
Ethylene Glycol Overdose

Performance of Focused History and Physical Exam (PC2)
Abstracts current findings in a patient with multiple chronic medical problems and, when appropriate, compares with a prior medical record and identifies significant differences between the current presentation and past presentations.

Level 1 Performs and communicates a reliable, comprehensive history and physical exam
Action: Obtains PMH and SH

Level 2 Performs and communicates a focused history and physical exam which effectively addresses the chief complaint and urgent patient issues
Action: Palpates and visualizes the entire patient (manikin) front and back

Level 3 Prioritizes essential components of a history given a limited or dynamic circumstance
Prioritizes essential components of a physical examination given a limited or dynamic circumstance
Action: Asks for all three components of the GCS

Level 4 Synthesizes essential data necessary for the correct management of patients using all potential sources of data
Action: Recognizes the need for intubation AND Identifies intoxication as the likely cause of the patient's condition.

Diagnostic Studies (PC3)
Applies the results of diagnostic testing based on the probability of disease and the likelihood of test results altering management.

Level 1 Determines the necessity of diagnostic studies
Action: Orders CMP

Level 2 Orders appropriate diagnostic studies
Performs appropriate bedside diagnostic studies and procedures
Action: Orders bedside blood glucose and EKG

Level 3 Prioritizes essential testing
Interprets results of a diagnostic study, recognizing limitations and risks, seeking interpretive assistance when appropriate
Reviews risks, benefits, contraindications, and alternatives to a diagnostic study or procedure
Action: Orders Serum Osmolality, ASA, Tylenol, AND Ethanol level

Level 4 Uses diagnostic testing based on the pre-test probability of disease and the likelihood of test results altering management
Practices cost effective ordering of diagnostic studies
Understands the implications of false positives and negatives for post-test probability
Action: Orders toxic alcohol levels AND begins specific treatment for toxic alcohol ingestion before levels are available

Diagnosis (PC4)
Based on all of the available data, narrows and prioritizes the list of weighted differential diagnoses to determine appropriate management.

Level 1 Constructs a list of potential diagnoses based on chief complaint and initial assessment
Action: Includes structural, metabolic, and toxic causes on the differential diagnosis of altered mental status

Level 2 Constructs a list of potential diagnoses, based on the greatest likelihood of occurrence
Constructs a list of potential diagnoses with the greatest potential for morbidity or mortality
Action: Constructs the differential diagnosis of an anion gap acidosis

Level 3 Uses all available medical information to develop a list of ranked differential diagnoses including those with the greatest potential for morbidity or mortality
Correctly identifies "sick versus not sick" patients
Revises a differential diagnosis in response to changes in a patient's course over time
Action: Constructs a differential diagnosis of an osmolality gap

Level 4 Synthesizes all of the available data and narrows and prioritizes the list of weighted differential diagnoses to determine appropriate management
Action: Provides a specific treatment (i.e. Fomepizole, dialysis) for toxic alcohol ingestion based on the POC lab

Simulation Case Evaluation Form
Ethylene Glycol Overdose

Pharmacotherapy (PC5)
Selects and prescribes, appropriate pharmaceutical agents based upon relevant considerations such as mechanism of action, intended effect, financial considerations, possible adverse effects, patient preferences, allergies, potential drug-food and drug-drug interactions, institutional policies, and clinical guidelines; and effectively combines agents and monitors and intervenes in the advent of adverse effects in the ED.

Level 1 Knows the different classifications of pharmacologic agents and their mechanism of action.
Consistently asks patients for drug allergies
Action: Obtains allergy history

Level 2 Applies medical knowledge for selection of appropriate agent for therapeutic intervention
Considers potential adverse effects of pharmacotherapy
Action: Gives Bicarbonate

Level 3 Considers array of drug therapy for treatment. Selects appropriate agent based on mechanism of action, intended effect, and anticipates potential adverse side effects
Considers and recognizes potential drug to drug interactions
Action: Gives Fomepizole

Level 4 Selects the appropriate agent based on mechanism of action, intended effect, possible adverse effects, patient preferences, allergies, potential drug- food and drug-drug interactions, financial considerations, institutional policies, and clinical guidelines, including patient's age, weight, and other modifying factors
Action: Provides adjunctive treatment with cofactors (i.e. thiamine) to decrease amounts of toxic metabolites AND gives Fomepizole based on POC lab

Disposition (PC7)
Establishes and implements a comprehensive disposition plan that uses appropriate consultation resources; patient education regarding diagnosis; treatment plan; medications; and time and location specific disposition instructions.

Level 1 Describes basic resources available for care of the emergency department patient
Action: Has patient admitted

Level 2 Formulates a specific follow-up plan for common ED complaints with appropriate resource utilization
Action: Asks for post-intubation CXR, post-treatment ABG

Level 3 Formulates and provides patient education regarding diagnosis, treatment plan, medication review and PCP/consultant appointments for complicated patients
Involves appropriate resources (e.g., PCP, consultants, social work, PT/OT, financial aid, care coordinators) in a timely manner
Makes correct decision regarding admission or discharge of patients
Correctly assigns admitted patients to an appropriate level of care (ICU/Telemetry/Floor/ Observation Unit)
Action: Consults toxicology

Level 4 Formulates sufficient admission plans or discharge instructions including future diagnostic/therapeutic interventions for ED patients
Engages patient or surrogate to effectively implement a discharge plan
Action: Arranges emergent dialysis

43 Military Emergency Medicine (EM) Residency Guide: Demystifying the Military Match and Application Process

Katirji L, Desai S, Hillman E, Lufty-Clayton L, Schmitz G /University of Kentucky, Lexington, KY; University of Missouri-Kansas City, Kansas City, MO; Baystate Medical Center, Springfield, MA; University of Texas San Antonio, San Antonio, TX

Background: The military match process for Emergency Medicine can be confusing and challenging to navigate. One can easily get lost in the maze of military jargon and service specific information. The military match impacts 1) students who join the Health Professional Scholarship Program (HPSP) or Health Services Collegiate Program (HSCP for Navy only), 2) students who attended a military service academy for undergraduate training and attend a private medical school and 3) students who attend the Uniformed Services University of the Health Sciences (USUHS). The purpose of this document is to serve as an overview of the military match process for both students and their advisors.

Educational Objectives:

1. To create a set of standard guidelines which are agreed upon and endorsed by CORD and EMRA for medical students and advisors involved in applying to the Emergency Medicine military match.
2. To identify and highlight common pitfalls that may prevent qualified military applicants from matching to a military or civilian EM spot.

Curricular Design: Five members of the CORD EM Student Advisement Taskforce met over a period of 10 months in person and over conference call. After discussion with multiple faculty members involved in military Graduate Medical Education, common areas of confusion and pitfalls were identified and a four page document of guidelines was drafted.

Impact/Effectiveness: A standard set of general guidelines for the military was created and was approved by CORD and EMRA to be widely distributed to undergraduate medical education programs and online. These will hopefully help to clarify many common questions and areas of confusion that military applicants and advisors have.

Military Emergency Medicine (EM) Residency Guide: Demystifying the Military Match and Application Process

Linda Katirji MD, Sameer Desai MD, Emily Hillman MD, Lucienne Lufty-Clayton MD, Gillian Schmitz MD

THE MILITARY BOUND MEDICAL STUDENT

The military match process for Emergency Medicine (EM) can be confusing and challenging to navigate. One can easily get lost in the maze of military jargon and service specific information. The military match impacts 1) students who join the Health Professional Scholarship Program (HPSP) or Health Services Collegiate Program (HSCP for Navy only), 2) students who attended a military service academy for undergraduate training and attend a private medical school and 3) students who attend the Uniformed Services University of the Health Sciences (USUHS). The purpose of this document is to serve as an overview of the military match process for both students and their advisors.

GENERAL OVERVIEW OF THE MILITARY SYSTEM

MSI and MSII years should be used to focus on doing well in classes, Step I and Step II. Basic officer training for HPSP students will be completed between first and second year.

The military application timeline is **much EARLIER** than civilian so it is important to be aware of the timeline early in medical school. Many students start in January of their third year setting up rotations at the military sites. The deadline for the initial application is usually in the second week of September and all final supporting documents are required no later than October 15. All applications are submitted through The Directorate of Medical Education Website known as "MODS" http://www.mods.army.mil/MedicalEducation/

Interviews are completed by November. It is the job of the Joint Service GME Selection board to rank and "match" everyone. They meet in late November / early December. The military match day is in December.

If you have a military obligation, you must apply to the military GME *and* the civilian match (ERAS). When you do this, there can be three different outcomes:

a) A military residency is obtained
b) A civilian residency is obtained, with military deferment (generally only in the Air Force)
c) A military transitional internship is obtained

If you are selected for a military residency, you will serve as an active-duty physician. Time in residency does not count towards any service commitment.

THE MILITARY SELECTION PROCESS

Every military student MUST go through the formal military selection process. All medical students with a military obligation will be selected for training by their military service's Program Directors (PDs), even if the student wants to go deferred to a civilian residency.

WARNING: It doesn't matter what your medical school or civilian residency programs tell you. You could be the most competitive applicant and they could even unofficially offer you a spot to train. HOWEVER, if you do not speak with the PDs of the military residencies you will not be selected to train in Emergency Medicine anywhere. This includes all civilian deferments if they are offered by your branch of services. Every year, this step is missed by a few very good students who are disappointed when they do not get their choice of residency.

CIVILIAN DEFERRED SLOTS

Each year the services look at their manpower needs and then set the number of EM physicians that need to be trained. This usually remains fairly constant in the Army and the Navy, but the Air Force has been known to swing widely over the years. For example, in the Air Force, there are 20 military slots with some civilian deferred slots available. These civilian deferment slots can swing from zero to over 20 in a single year. Every year a few very good students get civilian slots by letting the PDs know their intentions up front. (Honesty is key, do not try and play the game of telling everyone that they are your number one selection. It will be found out very quickly.) In general, there are rarely civilian deferments for Emergency Medicine in the Army and Navy.

SCHEDULING INTERVIEWS

Since some military applicants will obtain military deferment and train in a civilian residency, it is important that those students also apply through the civilian match and schedule an adequate number of interviews. All residencies are aware of this issue, and understand that you will be withdrawn off their list if you match in the military.

In a perfect world, you could do civilian interviews all after military match is completed, however it could be very difficult to schedule enough interviews in that short of a time. One option is to arrange for lighter month in January and backload your civilian interviews for that time period. If you do train in a civilian residency, you will fulfill your military obligation after residency.

The interview at a military residency does not have to be face to face -- phone or Skype® are acceptable alternatives in many cases. The interview also does not mean that you must place the military residencies first on your preference ranking.

WHERE ARE THE MILITARY RESIDENCY PROGRAMS LOCATED?

Army
- Augusta University Medical Center (GA)
- Fort Hood – Darnall (TX)
- Fort Lewis – Madigan (WA)
- Fort Sam Houston – SAMMC (TX)

Navy
- Navy Medical Center Portsmouth (VA)
- Balboa (San Diego)

Air Force
- Fort Sam Houston – SAMMC (TX)
- Nellis Air Force base (Civilian led) (NV)
- Travis Air Force base (Civilian led) (CA)
- Wright Patterson Air Force base (Civilian led) (OH)

THE POINT SYSTEM

The military uses a structured point system to rank all applicants, but the process is different for each branch of the service. When the Joint Service GME Selection board meets, each applicant is evaluated and given a point score based on success in medical school (class rank and USMLE / COMLEX scores), suitability (based on clerkships, interviews, LORs), research (more points for peer reviewed and multiple publications), and prior military service. Every military applicant will be put in an order based on their points. Based on the needs of each service, which may change drastically every year, a cut off line is set.

SUCCESS IN THE MILITARY MATCH

The Emergency Medicine military match is becoming more competitive. Success in the military match is largely based on the same things as the civilian match: course and clerkship performance, class rank, standardized testing scores, letters of recommendation, and contributing to research and extracurricular activities. Although the point system is in place, there are subjective components such as interviews and "suitability".

Much like the civilian match, if there is a particular place you hope to do your residency, you should try and schedule a 4th year clerkship there. All HPSP students should perform a rotation at a military hospital. This gives the staff a chance to get to know the potential applicants. Knowledge and interest in the military and the customs and courtesies associated with it can go a long way. Letters of recommendation and support from military physicians may carry more "weight" than civilian.

WHAT IF I DON'T MATCH?

Unfortunately due the way the match is set up, this can be a reality for some people. However, if you do not match into a military OR civilian spot, there are still options.

a) Switch into a military residency in another field, if available
b) Do a one year civilian or military internship (transitional PGY-1 year)

Afterwards, you may do one of the following:

a) Reapply to for residency (with the opportunity to obtain more points)
b) Serve as a General Medical Officer (GMO): GMOs (Flight Surgeons and Undersea Medical Officers) provide care to active-duty personnel and gain military-specific medical training. Time as a GMO fulfills active-duty service obligation and may make your application more competitive when you reapply to the residency of your choice.

BOTTOM LINE

The military match is a difficult system to navigate and many aspects of it can change from year to year and is different for each branch of the military, it is very important to find a mentor in your own who is knowledgeable about the process to help guide you. The following is a list of a few key points:

1. Focus on success during medical school following the same principles outlined in the CORD Student Advising Task Force (SATF) **EM Applicant's Frequently Asked Questions and EM Applying Guide**.
2. Start preparing early: find a mentor who is knowledgeable about the military match process to guide you. Consider reaching out to the military training programs to learn about timelines specific to their program. (Students may also sign up for a military resident mentor through EMRA. Mentorship application and information is available at https://www.emra.org/students/mentorship)
3. Strongly consider an EM rotation at a military hospital in addition to a civilian program.
4. It is imperative that you go through the military match and interview at the programs even if your goal is to match at a non-military program. If you do not interview with the military you will not be eligible for the civilian match.
5. Plan for civilian interviews and, when possible, schedule them for late December or January of your 4th year.

For more detailed information on military EM please **click here** for an expanded FAQ document created by the Government Services Chapter of the American College of Emergency Physicians (GSACEP).

44 NEXUS Introduction to Emergency Medicine Course: Resident-Taught Multi-Modality Medical Student Elective

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Background: Emergency Medicine has become an increasingly popular specialty choice among US medical students. Although students may enter with a clear interest in emergency medicine, few medical schools incorporate early exposure the specialty.

Educational Objectives: We sought to establish an extracurricular medical student classroom elective covering basic concepts of emergency medicine taught by emergency medicine residents. By using residents as primary teachers, we intended to conduct the course without strain on departmental faculty resources, foster improvement in resident teaching abilities, and cultivate mentorship relations between residents and medical students.

Curricular Design: The course consisted of weekly 90 minute didactic sessions covering eight cardinal clinical presentations in emergency medicine. A different senior emergency medicine resident taught each session. The sessions were divided between tabletop interactive case discussions and brief hands-on procedural teaching covering maneuvers that a medical student might reasonably be expected to perform during medical school (i.e. operating a BVM, attaching a cardiac monitor). Additionally, residents were encouraged to teach the same topic in subsequent semesters, providing an opportunity to continually develop their presentation in response to learner feedback.

Impact/Effectiveness: Each session over two semesters was rated in three categories, each on a scale of 1 through 5, 1) educational value of session, 2) educator's teaching ability, and 3) educator as a role model. Our first semester's sessions received an average rating of 4.1, 4.2, and 4.3 respectively in the above categories, and our second semester received an average of 4.3, 4.5, and 4.5 respectively. A large number of constructive comments were also collected to guide subsequent sessions and improve upon future semesters. The course was received with overwhelming enthusiasm and we were unable to meet the demand of medical students wanting to attend sessions and residents wanting to teach sessions. With minimal