



EMERGENCY MEDICINE: AN INTEGRAL COMPONENT OF THE CONTINUUM OF CRITICAL CARE THAT IS DEVALUED BY FELLOWSHIP PROGRAMS

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INTRODUCTION

The need for critical care services is increasing as the gap between supply and demand for Intensivists grows (1,2). The pipeline of practicing Intensivists remains relatively stagnant at about 12,000 U.S. adult critical care medicine (CCM)-certified physicians (3). This discordance between patient need and physician supply has potential to worsen patient outcomes, threaten patient safety, and increase health care costs (1). Therefore, expanding the supply of qualified Intensivists is not only needed, but also makes common sense.

DISCUSSION

Emergency Medicine (EM) residency graduates have pursued CCM training since 1976 (4). Peter Safar, a founding father of CCM, stated that critical care is a continuum that initiates with prehospital management, continues with EM resuscitation and stabilization, and proceeds into the intensive care unit (ICU) (2,5). Since the formation of the Society of Critical Care Medicine in 1970, a multidisciplinary approach, including EM, was advocated for the practice of CCM (2).

Despite these historical facts and the Intensivist shortage, emergency physicians (EPs) have traditionally

been limited in CCM training and board certification in this country (2,4). In comparison, providing unimpeded access to board certification for CCM-trained EPs is standard practice in Europe and other parts of the world (2). Despite these barriers in the United States, more than 200 EPs completed CCM training through various models of fellowship curriculum. The majority of these EM/CCM pioneers practice at major academic centers with prominent clinical and academic roles at the local and national/international level (4).

Recent strides have been made to open U.S. board certification for EPs completing CCM fellowships. Training pathways now exist through fellowship programs in Internal Medicine (IM/CCM), Surgery (SCC), and Anesthesiology (ACCM). However, barriers to training and certification persist, as EPs are required to fulfill prerequisites in IM (6 months) or a preliminary surgical year prior to CCM fellowship acceptance. These requirements are artificial and lack published evidence to suggest that they are necessary. Furthermore, these barriers will deter interested EPs from pursuing CCM training, and represent a fundamental lack of understanding of what EM training provides.

Residency training in all specialties has strengths and weaknesses in preparing would-be fellows for the practice of CCM. Identifying and filling those gaps with a

Potential Critical Care Patient Populations Presenting to the Emergency Department	
Emergent cardiac arrest: STEMI, heart failure, arrhythmias, cardiopulmonary failure, etc.	Acute neurologic events: stroke, status epilepticus, intracranial hemorrhage, etc.
Respiratory arrest: hypoxia, COPD, status asthmaticus, PNA, etc.	Trauma patients: blunt, penetrating, environmental, burns, traumatic brain injury, etc.
Severe sepsis/Septic shock	Toxicology
GI hemorrhage	Orthopedic emergencies and wound care
Obstetric and Gynecologic emergencies	Metabolic emergencies: DKA, thyroid, adrenal crisis, etc.
Palliative care, EOL	Oncologic emergencies
Understand 24/7 in-house patient care and shift work...	

ACGME Program Requirements for Graduate Medical Education in Emergency Medicine, 2012
(STEMI: ST-elevation myocardial infarction, COPD: Chronic obstructive pulmonary disease, PNA: pneumonia, GI: gastrointestinal, EOL: end-of-life, DKA: diabetic ketoacidosis)

Figure 1. Typical emergency department population that provides critical care experience for the Emergency Medicine Resident.

well-designed curriculum should be the goal of all CCM fellowships; the end product being a well-rounded Intensivist. If there is truly a desire to address the obvious Intensivist shortage facing our country, these EM-specific prerequisites make little sense. Otherwise, all residents, regardless of their core residency training, should have prerequisites in other specialties prior to CCM fellowship.

These discriminatory “extra hoops” devalue EM residency training programs, and are based on a misconception of the clinical and academic exposure EM residents receive during training. EM residencies exist as 3- (70%) and 4-year (30%) training cycles. A unique strength of EM training is that the Accreditation Council for Graduate Medical Education Residency Review Committee already requires that the trainee receive broad exposure to the undifferentiated critical care patient (Figure 1). EM is one of the major doors of entry into the ICU, and EPs provide hundreds of patient days of critical care annually in this country (6).

The expansive scope of multidisciplinary critical care for residents training in EM rivals, if not exceeds, the exposure that other residents receive during Medicine, Surgery, or Anesthesiology training. The Residency Review Committee for EM residency also has procedural requirements, many of which are directly pertinent to critical care, for example: airway management, central venous access, ultrasound, cardioversion, chest tube placement, cardiopulmonary and shock resuscitation,

paracentesis, and thoracentesis. EM residency also provides a broad training curriculum with rotations in the ICU (minimum requirement 4 months) and in-patient floor settings (Medical/Surgical).

The idea that an EM resident needs further training prior to CCM fellowship as an “Internist” or “advanced surgical year” stems from a misunderstanding and devaluing the rigor of training for EM trainees. It would be akin to requiring a surgeon to complete prerequisites for intubations, management of status asthmaticus, and acute coronary syndrome prior to starting a fellowship. Similarly, should a trainee from the IM pathway have required prerequisites for thoracostomy, neurologic emergencies, and toxicology? No. That is the point of CCM fellowship training: identify and correct knowledge, critical thinking, and procedural competency gaps to produce Intensivists.

Established fellowship programs, (e.g., University of Pittsburgh, Washington University in St. Louis, Cooper Medical Center) have been training EPs in multidisciplinary CCM for years. These fellows have excelled in their posttraining CCM practice and certification. Of the initial 44 EM/CCM applicants who completed the American Board of Internal Medicine qualifying examination, there was a 100% pass rate (compared to traditional IM pass rate of 92%) (7). This EM/CCM group, eligible to be grandfathered under the training and practice pathway, did not complete the required 6 months of “IM internship.” EM/CCM graduates from surgery-

based programs, prior to the required year of advanced preliminary surgical coverage, have shown similar success rates. Over a 4-year period, EM/CCM graduates had the three highest National Board Examination (NBE) scores, showed no statistical difference in NBE scores when compared with surgical trainees, and not a single EM/CCM graduate scored in the bottom decile (8).

Are EM residents Intensivists? No, but EM residency training provides a natural progression into multidisciplinary CCM training without adding prerequisites. As emphasized by Medicine and Surgery detractors of the EM/CCM training pathway, EM residents do not have great exposure to longitudinal inpatient care or specific surgical techniques. One could argue that similar patient exposure discrepancies exist for a Medicine trainee managing acute hemorrhagic shock or surgical trainee managing obstructive lung pathology. This is where CCM fellowship training fills in the gaps and program directors adapt appropriate curriculums focused on ensuring competencies to create well-rounded Intensivists equipped to handle all facets of CCM practice (9). The formal completion of CCM fellowship milestones should be expected from all trainees, regardless of residency background.

CONCLUSIONS

Peter Safar was correct that critical care is a continuum (5). EM rightfully deserves a spot at the CCM table unimpeded by artificial requirements. EPs receive appropriate critical care exposure during residency to prepare them

for a CCM fellowship. Instead of erecting further barriers, the medical and surgical specialties of critical care should welcome the strength of EPs into their fellowships unimpeded. The demand for Intensivists will continue to grow ... the expanding specialty of EM/CCM is more than willing to be part of the solution (1).

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