

A Clinical Doctorate in Emergency Medicine for Physician Assistants: Postgraduate Education

Steven W. Salyer PA-C, United States Army Emergency Medicine Physician Assistant Residency

Postgraduate education in emergency medicine for physician assistants (PAs) was developed over 30 years ago and has now evolved into a clinical doctorate degree at one institution. The US Army postgraduate education program in emergency medicine, at Brooke Army Medical Center, Fort Sam Houston, Texas, is 18 months in length and currently admits four PAs a year. It is highly structured to expose the PA to almost all battlefield trauma conditions. This paper outlines the structure of this unique program and a profile of the first graduates.

INTRODUCTION

Postgraduate education for physician assistants (PAs) first developed in the early 1970s.^{1,2} Over the past three decades the PA postgraduate training movement has slowly expanded, and in 2008 there are 43 programs, also referred to as residencies or fellowships, providing some form of advanced learning in various medical and surgical specialties. Five programs specialize in emergency medicine. I report on one of these programs to chronicle for historical purposes the first clinical doctorate program for PAs.

In July 2006, the United States Army Emergency Medicine Physician Assistant Residency was expanded from a 12-month to an 18-month program. The program graduated its first class December 17, 2007.³ This was the first PA residency that awarded a doctoral degree — graduates receive a doctor of science (DSc) in physician assistant studies in emergency medicine from Baylor University, Waco, Texas. This is a terminal degree recognizing the core competencies of emergency medicine and the methodologies of basic aca-

dem research.⁴

The goal of intensifying postgraduate emergency medicine training into an 18-month program was twofold. First, the didactic phase was expanded to stay abreast of the growing knowledge base of emergency medicine. Since the inception of the postgraduate Army Emergency Medicine PA specialty training program in 1991, the amount of core emergency medicine knowledge, and the skill sets required to practice it, has increased dramatically. The competency requirement for an Army emergency medicine physician assistant (EM PA) to practice effectively and safely alongside residency-trained and board-certified emergency medicine physicians was seen as both challenging and a necessity. The decision to increase the residency training time to 18 months was authorized at the Army Surgeon General level, Department of the Army.

Second, the proficiency level was increased to ensure core competency to save lives on the battlefield or wherever trauma occurred. The military EM PA requires a skill set that

Feature Editor's Note:

In this first submission for the new Postgraduate PA Education feature, the author describes the structure and curriculum of the first PA residency program to award a doctoral degree. The 18-month program in emergency medicine trains four students per year at Brooke Army Medical Center in Fort Sam Houston, Texas.

— Patrick Knott, PhD, PA-C

Steven Salyer can be reached at steven.salyer@amedd.army.mil.

The Postgraduate PA Education feature is intended to be a forum for the sharing of ideas and materials on any issue relating to physician assistant postgraduate education. Authors desiring to contribute to Postgraduate PA Education should send submissions to:

Patrick Knott, PhD, PA-C
Rosalind Franklin University of Medicine and Science
E-mail: patrick.knott@rosalindfranklin.edu
Telephone: (847) 578-8689

exceeds that of a civilian emergency medical provider. For example, the Iraq war is primarily an urban war, while the Afghanistan theater is rural and mountainous. The Balkans requires management of various groups of refugees with differing needs. In some of these hostile environments the PA may need to rely on his or her skills without assistance. He or she will be a medical manager, a teacher, and a medical mentor for between five and 40 Army combat medics.

The doctor of science in PA studies in emergency medicine program is different from other training programs because of the combination of didactic learning, clinical rotations, and clinical research it contains. This program only matriculates experienced Army PAs and provides 18 months of specialty training in emergency medicine. The research component is significant and includes original scholarly work. Graduates are tactically and technically proficient in emergency medicine and trauma and have the ability to conduct medical research in a hospital setting or in a war zone. The doctoral degree that is awarded recognizes the unique set of knowledge that these PAs have learned and that sets them apart because of the complexity of their skill set.

Residency

All applicants are screened by an Army Medical Specialist Corps board for their ability to complete this graduate program. Baylor University requires a minimum of 1,000 on the GRE for admission to the DSc program.

The 18-month residency consists of 21 rotations (see Table 1). The first phase is an intense block of academic lectures and supervised rotations in the emergency department at Brooke Army Medical Center, Fort Sam

Houston, Texas. This gives the trainees the basic academic knowledge to function in a Level I trauma center and in an emergency department.

The EM PA resident completes eight separate rotations in Level I emergency departments at two sites. They also complete rotations in pediatric emergency medicine, radiology, oral/facial surgery, surgical intensive care unit, medical intensive care, and cardiac care. A toxicology rotation is completed at the Central Texas Poison Center.

A trauma surgery rotation at the University of Texas Health Science Center at San Antonio and University Hospital's level I trauma center provides a broad exposure to accidents and injuries. University Hospital's trauma service covers 22 counties of south Texas and one-fourth of the United States-Mexican border in Texas.

Procedures and technical training are broad in scope. For example, the emergency ultrasound course trains the EM PA to competency standards of credentialing guidelines of the American College of Emergency Physicians. Competencies include emergency bedside gallbladder, abdominal, and lower extremity ultrasounds.

All procedures performed on patients are logged on a computer program designed to manage resident data in an academic residency. This allows each resident to have an inventory of all procedures to document core emergency medicine competency for credentialing at his or her next assignment.

Clinical research is also a component of this program. All residents are required to complete a research project, and encouraged to publish their results. This capstone project is a requirement for the DSc from Baylor University. All protocols are

submitted, reviewed for academic and medical merit, and approved by the Institutional Review Board or the Institute of Surgical Research at Brooke Army Medical Center.

Each EM PA resident attends 5 hours of grand rounds lectures weekly, consisting of academic emergency medicine subject core lectures, lectures from special invited speakers, and presentations on emerging technology. Ground rounds lectures cover the entire physician emergency medicine residency core curriculum every 18 months. An animal procedure lab allows skill sets specific to emergency medicine and trauma to be mastered. Core reading assignments are taken from the literature, as well as current emergency medicine, medical and surgical texts.

Demographics of EM PA Residents

The first Army Emergency Medicine Physician Assistant Residency doctoral class — four United States Army Captains (two females and two males) — graduated on December 17, 2007. Their average age was 39, and the average time from graduating from the Interservice Physician Assistant Program to graduation with their DSc was 7 years. The first graduates were assigned to Army emergency departments throughout the United States, deployed to Iraq, or placed in positions to teach other PAs, with the potential for further academic research.

DISCUSSION

One of the advantages of being located at Brooke Army Medical Center is the proximity to the Institute of Surgical Research Center (Army Burn Unit). The residents are exposed to acute burn management at the emergency department and at the Army Burn Center. The new Defense Combat Casualty Care Research

Table 1. Curriculum for 18 Month EMPA/Doctor of Science Degree, Residency at Brooke Army Medical Center, Fort Sam Houston, Texas

Didactic Portion, Tested Blocks

MEM6210	Introduction to Emergency Medicine — Resuscitation and Shock
MEM6211	Musculoskeletal Topics Emergency Medicine
MEM6212	Toxicology and Oral Maxillary Facial
MEM6213	Cardiovascular, Pulmonary, Hematology, Oncology, and Psychosocial Disorders
MEM6214	Gastrointestinal, Genitourinary, Obstetrics/Gynecology
MEM6215	Pediatrics, Non-Traumatic Musculoskeletal Disorders, Abuse/Assault
MEM6216	Emergency Wound Management, Environmental Injuries, Trauma
MEM6217	Infectious Disease, Endocrinology, Neurology
MEM6220	Advanced Resuscitation and Shock
MEM6221	Advanced Musculoskeletal Topics Emergency Medicine
MEM6222	Advanced Toxicology and Oral Maxillary Facial
MEM6223	Advanced Cardiovascular, Pulmonary, Hematology, Oncology, and Psychosocial Disorders
MEM6224	Advanced Gastrointestinal, Genitourinary, Obstetrics/Gynecology
MEM6225	Advanced Pediatrics, Non-Traumatic Musculoskeletal Disorders, Abuse/Assault
MEM6226	Advanced Emergency Wound Management, Environmental Injuries, and Trauma
MEM6227	Advanced Infectious Disease, Endocrinology, Neurology

Practical Clinical Rotations

MEM6330	Orientation to Emergency Medicine, Brooke Army Medical Center
MEM6231	Emergency Department 1, Brooke Army Medical Center
MEM6232	Emergency Department 2, Brooke Army Medical Center
MEM6233	Emergency Department 3, Brooke Army Medical Center
MEM6234	Emergency Department 4, Brooke Army Medical Center
MEM6235	Emergency Department 5, UTHSCSA, University Hospital*
MEM6336	Emergency Department 6, UTHSCSA, University Hospital*
MEM6337	Emergency Department 7, UTHSCSA, University Hospital*
MEM6338	Emergency Department 8, UTHSCSA, University Hospital*
MEM6439	Pediatrics Emergency Department, Santa Rosa Children’s Hospital
MEM6440	Pediatrics Emergency Department, Santa Rosa Children’s Hospital
MEM6341	Elective, Brooke Army Medical Center
MEM6142	Radiology, Brooke Army Medical Center
MEM6143	Oral Maxillary Facial Surgery, Brooke Army Medical Center
MEM6144	Toxicology, Central Texas Poison Center, Waco, Texas
MEM6145	Emergency Ultrasound, Brooke Army Medical Center
MEM6346	Clinical Research, Brooke Army Medical Center
MEM6447	Surgical Intensive Care Unit (SICU)
MEM6448	Medicine Intensive Care Unit (MICU), Brooke Army Medical Center
MEM6449	Cardiac Care Unit, Brooke Army Medical Center
MEM6450	Trauma Surgery, UTHSCSA, University Hospital*

*University of Texas Health Science Center at San Antonio and University Hospital, San Antonio, Texas

Center is also being built beside Brooke Army Medical Center. This center will be the command for all military medical research and will serve as a center for quality PA academic research.

The DSc described here is not

without controversy.^{5,6} Various arguments have been advanced for and against the expansion of the terminal degree for PAs⁷. It must be understood that the Baylor DSc is a “terminal” degree that recognizes the special education curriculum and skill sets

required of Army PAs to save lives on the battlefield, along with the ability to conduct research on medical issues and problems specific to military medicine. Shortages of emergency medicine staff are looming, both in the US as well as abroad, and the

demand for services is exceeding provider supply.⁸ Nowhere is this more evident than in the military. Physician retention and military medicine surges are amplifying the need for clinical capital in skilled emergency medicine and trauma management. Advanced military medicine skills and research are needed to prepare the next generation of uniformed personnel. A PA who can analyze sophisticated data and act with experience is a valued commodity in the uniformed ranks.

The program faculty are confident that they are training PAs to provide the highest level of care to military personnel. They acknowledge that

this degree is new to the profession, but are convinced that it is the appropriate award for successful completion of the program.

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