

Chapter 7

THE ARMY GENERAL SURGERY PHYSICIAN ASSISTANT

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“The most important clotting factor is the surgeon.”

—*Moshe Schein, MD¹*

Mission

The mission of an Army general surgery physician assistant (GSPA) is to extend surgical and critical care far forward on the battlefield. GSPAs are force multipliers, enhancing the capabilities of Army general surgeons by extending advanced care and surgical decision-making. GSPAs serve in conventional or special operation forces to support surgical care and surgical critical care in all roles of care, including forward resuscitative surgical teams, critical care transport/emergency resuscitation teams, and deployable hospitals. In military treatment facilities, GSPAs provide perioperative, postoperative, surgical first assist, critical care, and bedside procedures to surgical patients with the goals of increasing surgical productivity, access to care, and continuity of care within the sphere of surgical practice throughout the Army. Doctorate GSPAs also conduct clinical research and performance improvement projects approved by the institutional review board (IRB) in surgery or critical care with the intent of improving care on and off the battlefield.²

History

In the 1960s, surgical assistants were being developed on an apprenticeship basis, although there was no formal training process. During that decade, in response to the shortage of medical providers, the PA training model was developed by Dr Eugene Stead Jr, Dr Richard

Smith, Dr Hu C. Myers, and Dr Henry K. Silver, based on World War II physician medical and nursing models.³ The military first started training specialty PAs in the 1980s. The first military PA specialty was orthopedics, followed by emergency medicine in the 1990s.

In 1995, the idea first surfaced for developing a surgically trained PA who would serve as an extension for surgeons on forward surgical teams. A surgical PA program was developed that included clinical rotations at the University of Maryland Shock Trauma Center in Baltimore; Brooke Army Medical Center at Fort Sam Houston, Texas; and the University of Texas Health Science in San Antonio.³ Once trained, these PAs would be able to first assist, perform triage, and provide surgical critical care, thus allowing surgeons to focus on performing operations.

In 2001, a pilot program was conducted to train a surgical Army PA. The selected trainee began a 12-month rotation through surgical services at Fort Hood, Texas. The program was a success, but further development of the program was deferred after the September 11th terrorist attacks (email communication with Major [Retired] Don Adams, January 2014).

According to the first GSPA program directors, Lieutenant Colonel David Freel and Lieutenant Colonel Patrick Sherman, the idea of the GSPA was revived in 2005. Over the next year, a curriculum was developed, and a training site was established at Brooke Army Medical Center, Fort Sam Houston, Texas (email communication with Lieutenant Colonel [Retired] David Freel, December 2013). The first class to attend the 18-month training program began in July 2009. In December 2014, the Doctor of Science in Physician Assistant Studies—General Surgery (DScPAS-GS) was awarded. The program continued to grow, incorporating Air Force PAs, and seeing its first Navy cohort in the 2018–2019 class cycle, making it a truly tri-service program. In October 2019, new operational assignments for GSPAs were added to the 528th Sustainment Brigade to provide direct surgical support to Special Forces missions.

Because of the continued surgeon shortfall, current initiatives to increase trauma surgical capability include the use of the M4 skill identifier. Through collaborative efforts of the Medical Corps and Specialist Corps via the Medical Center of Excellence Personnel Proponency Directorate, the M4 skill identifier is being proposed as a multiple branch means to collectively identify both trauma-trained surgeons and trauma-trained surgical PAs to augment Role 2 through Role 4 surgical employment.²

Training

The 18-month DScPAS-GS doctoral program includes general surgery clinical rotations and subspecialty (trauma/critical care, burn surgery, oncological surgery, pediatric surgery, neurosurgery, vascular surgery, plastic surgery, interventional radiology, and intensive care unit procedures) monthly clinical rotations (Figure 7-1). The following procedures are taught during the 18-month program:

- emergency and critical care ultrasound;
- endoscopy (bronchoscopy, colonoscopy, esophagogastroduodenoscopy);
- placement of central lines;
- peripheral inserted central catheter;
- pericardiocentesis;
- thoracostomy tube placement;



Figure 7-1. Captain Josh Randles (left) affixes an autologous split-thickness skin graft with a US Army Institute of Surgical Research staff surgeon (right); October 2019.

- lumbar puncture;
- ventriculostomy;
- surgical airways (crichothyroidotomy and tracheostomy); and
- fluoroscopic guided procedures.

Also taught are basic surgical first assist techniques for trauma, open surgical cases, and laparoscopic and robotic surgical cases. Other critical care and trauma procedures taught are airway management (intubation, crichothyroidotomy, tracheostomy); orthopedic external fixation; continuous renal replacement therapy; burn and wound care; minor procedures; thoracotomy; and ventilator management. The GSPA resident also attends training in the following certifications: Advanced Burn Life Support (ABLS); Fundamentals of Critical Care Support; Emergency War Surgery; and Advanced Trauma Life Support (ATLS).²

Current curricular training occurs at Brooke Army Medical Center for 17 didactic courses aligned with 16 clinical rotations and comprehensive IRB-approved doctoral research projects, culminating in a doctoral defense with the affiliated university. These programmatic events are complemented by oral examinations, simulation training/testing, case report publications, surgical presentations in morbidity/mortality and tumor board conferences, and the American Board of Surgery In-Training Examination (ABSITE).²

Practice and Certifications

After graduation, GSPAs have the opportunity to practice in a multitude of fields and may obtain additional certifications:

- Specialty practice
 - trauma/critical care
 - acute care surgery/emergency general surgery
 - cardiothoracic surgery
 - interventional radiology
 - neurosurgery
 - vascular surgery
 - bariatric/minimally invasive surgery
 - surgical oncology
 - colorectal surgery

- Certifications
 - Registered Diagnostic Medical Sonographer (RDMS)⁴
 - Certified Wound Care Specialist (CWS)⁵
 - Certificate of Advanced Qualification (Hospitalist)

Duty Descriptions

Chapter 4 described four positions—program director, research director, program manager, and Interservice Physician Assistant Program (IPAP) instructor—with similar roles and responsibilities in managing the DSc programs for clinical orthopedics (Chapter 5), emergency medicine (Chapter 6), and general surgery (this chapter). The following duty descriptions are specific to GSPAs:

Surgical/Critical Care Physician Assistant, Special Operations Forces

These PAs serve as surgical PAs on forward resuscitative surgical teams, providing initial trauma assessments and damage control resuscitation, assisting with damage control surgery and acute care surgery, and providing critical care. They are expected to provide operational context to the team's mission; assist with medical mission planning and training^{6,7}; and advise special operations units and commanders on medical threats and permission requirements. Training for these surgical teams consists of working in civilian trauma centers and establishing overseas partnerships. These PAs must be airborne volunteers, willing to deploy at least annually, and agree to a 3-year commitment to the unit. They must be in excellent physical shape, culturally astute with good interpersonal skills, and able to think and operate at both tactical and strategic levels.

Surgical/Critical Care Physician Assistant, Conventional Forces

Positions include the White House surgical PA and PAs assigned to a forward deployed resuscitative surgical element, deployable hospital, critical care transport team, or a disaster response team in the United States. These PAs are responsible for ensuring that all assigned surgical patients receive appropriate triage, preoperative evaluation, resuscitation, and stabilization. They also provide the following care: postoperative care, surgical first assist, inpatient care, intensive care,

minor procedures, ultrasound, endoscopy, and wound care. They assist with placement of external fixators (pelvic and extremity), ensure continuity of care, and perform critical care transportation as required. Additionally, they perform or assist in IRB-approved research and performance improvement projects, and educate and train consulting physicians, PAs, nurses, and medics in surgical disease processes, pathology, and treatments.

General/Trauma Surgery Physician Assistant, Fixed Facility

These GSPAs provide surgical care, under the supervision of a surgeon, for patients admitted to a military medical treatment facility. They conduct the following care: preoperative; postoperative; surgical first assist; inpatient treatment; trauma assessments; intensive care; minor clinic procedures; bedside procedures (ultrasound, central lines); endoscopy (colonoscopy, esophagogastroduodenoscopy); and wound care. These GSPAs also perform on-call duties as first call with surgeon backup, and ensure continuity of care for all patients. Additionally, they participate in morbidity and mortality conferences, cancer care conferences, and wound care conferences. These GSPAs also conduct IRB-approved research and performance improvement projects and train consulting physicians, PAs, nurses, and medics in surgical disease processes, pathology, and treatments.² They provide feedback and training to local Role 1 providers and medics on outcomes and possible areas for improvements.²

Positions and Duty Locations

- GSPA (availability contingent upon updated Defense Health Agency directives):
 - Fort Belvoir Community Hospital, Fort Belvoir, VA
 - Tripler Army Medical Center, Honolulu, HI
- Special operations surgical PA: 528th Sustainment Brigade, Fort Bragg, NC, with duty at Charlotte, NC
- IPAP general surgery instructor: US Army Medical Center of Excellence, JBSA-Fort Sam Houston, TX
- GSPA program director: Brooke Army Medical Center, JBSA-Fort Sam Houston, TX

- GSPA assistant program director: Brooke Army Medical Center, JBSA-Fort Sam Houston, TX
- GSPA research director: Brooke Army Medical Center, JBSA-Fort Sam Houston, TX

Requirements

- Experience in battalion and brigade PA positions. Deployments as PA are preferred.
- Apply and be accepted to long-term health education and training (LTHET).
- Rank of captain to lieutenant colonel.
- Captains must have completed the Captains Career Course and majors and higher must have completed Intermediate Level Education prior to start of program.²

Desired Skills and Attributes

- Must be an excellent role model with the desire to mentor others.
- Solid leadership, administrative, and academic skills.
- Must have an interest in people.
- Must be able to encourage and assist others.
- Good spoken and written communication skills.
- Strong work ethic.
- Strong organizational and time management skills.
- Committed to working in a team environment.

Lessons Learned

- Training via LTHET is primarily an exposure to multiple practice types; the expertise in a discipline begins on becoming a staff GSPA.
- GSPAs should emphasize surgical and procedural skill maintenance as a major component of their required privileges to support surgical care in deployment.
- Open procedures and basic laparoscopic procedures (hernia, appendectomy, cholecystectomy, diagnostic laparoscopy) are the common surgical cases performed outside fixed facilities.
- Surgical care must occur along a continuum beginning with primary care, prehospital Tactical Combat Casualty Care (TCCC) initial

practice; therefore, GSPAs must be routinely familiar with primary care and TCCC practice to bridge care effectively.

- GSPAs must maintain PA-C recertification as general practitioners and must also maintain the associated knowledge and practice base.
- GSPAs are also military medical officers and must meet the milestones for professional military education and consider opportunities for broadening positions that improve the PA career field.

Tips for Success

- Exploiting a PA's career experience to bridge the knowledge gap for the surgeon from the point of injury to the surgical table and intensive care unit (ICU) bed benefits the patient and enhances shared understanding of the surgical team.
- The LTHET application process includes a good Graduate Record Examination (GRE) score, including the essay score—writing ability will have significant bearing on success in LTHET.
- Surgical research is constantly evolving; to participate, a successful GSPA must remain current in surgical and critical care research.
- Surgery is a team practice; the GSPA must carve out a role that adds value and helps the surgeon focus on their role.
- Valuable knowledge and experience can be drawn from all members of the surgical care team—operating room (OR) technicians, OR nurses, anesthesiologists, and post-anesthesia care unit (PACU) and ICU staff.
- The practice of surgery depends on understanding its judicious use in treating disease as well as appropriate nonsurgical management.
- Expertise in the OR is the result of time spent in the OR.
- More surgical care is performed outside the OR than in it.
- Thorough documentation saves lives and supports good surgical decision-making.
- A GSPA cannot rely solely on a radiologist's report; they must personally view the study ordered and know its limits (anatomy is different in 3-dimensional space).
- Elements of additional surgical disciplines (interventional radiology, neurosurgery, burn, plastics, orthopedics, vascular) should be learned in preparation for any austere surgical deployment.

- It is necessary to learn how to use equipment (loupes, headlamp, laparoscopic and other scopes, cautery, suction); GSPAs should know their intended purposes and how to compensate for their shortfalls as needed.

Conclusion

The GSPA is a well-trained and versatile specialty provider. GSPAs have a comprehensive understanding of the anatomy and pathophysiology of not only surgical disease but also traumatic injury—with the ability to manage a patient from the prehospital phase, to the trauma bay, operating room, and intensive care unit. In addition to providing treatment in all roles of care, in both conventional and unconventional forces, the GSPA can serve in force-generating roles as IPAP and LTHET faculty. They also have opportunities to conduct and publish clinical research. Those who have graduated from the training pipeline are adept and experienced health care providers. The GSPA should be a much sought-after career path.

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