

Presentation

The development of presentation skills is crucial to an academic career. Think only of how differently you would approach preparing a poster at an academic meeting, illustrating the presentation of an anatomy lesson for medical students, putting together an instructive talk on your area of expertise, or presenting options for analgesia to expectant mothers planning to visit the obstetric unit. Oscar Wilde has said, when talking of a presentation, “I would have made it shorter but I did not have enough time.”

Writing

The skill of writing for publication will be one that requires support and practice to develop. A way that you can learn this is through a good mentor who supports you in writing, from your first case report to manuscripts and grant submissions. While this may seem trivial, the writing of a case report teaches one to be singularly focused on teasing out the key issues and writing this down in an instructive, readable, yet parsimonious fashion.

Leadership and Management and Communication

As you grow in your area of expertise, you will be asked to become a director of a division, chair of a department of hospital committee, chief of a clinical service, a residency or fellowship program director, or perhaps even a departmental chairman. Clearly you will need to develop skills in administration and leadership to help create an environment that brings out the best in your colleagues.

Conclusion

I hope that I have been able to encapsulate what a career in academic anesthesiology may look like. As in life, there is no set path. Half the fun is the journey. If you want to make a difference to your chosen specialty and help build its history, academic anesthesia beckons. Will you take the challenge?

CHAPTER 6

Anesthesia in the Armed Forces

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Introduction

A former chairman once said to me, “I wish I could hire a department full of former military anesthesiologists. Their expertise, maturity, work ethic, sense of duty and ability to adapt are simply amazing, which are qualities that would solve many of the problems that I face as a chairman in anesthesiology.” He asked me, “How is it that the military generates such exceptional providers?” Although I acknowledged many influences that shape these providers, our discussion highlighted several ideas that uniquely describe anesthesiology in the military.

Military Unique Activities

The fundamental distinction of military anesthesiologists is in their military unique activities. A casual inspection of military anesthesiology reveals a work environment similar to any American civilian institution with its equipment, supplies and anesthetic approaches common to most anesthesiologists. However, a closer inspection discovers the military anesthesiologist removed from comfort zones to face tasks and circumstances that demand his or her deepest reserves of expertise, endurance and emotional resolve. Some find themselves in the tensions of war, the extremes of natural disasters or the medical hunger of third-world countries.

Following a mass casualty experience, an anesthesiologist stationed in the Middle East stated that “while six anesthesia providers ran six operating rooms in three 15-foot-by-15-foot tent rooms, we completed over 80 trauma cases in the first 24 hours, which included 40 percent craniotomies and some of the most complex multi-trauma injuries I have ever seen. We had no complaints or perioperative complications. We just had 80 excellent resuscitations and anesthetics.”

Another provider described the destruction of Hurricane Katrina as absolute chaos. He found the city of New Orleans submerged to its roof tops without food, power, communication or transportation. Helicopters served as ambulances and a collection of tents on an airport runway served as the only medical system for the tens of thousands of patients and evacuees. While one military anesthesiologist was performing an emergency cesarean section by flashlight, another initiated on a chalkboard the plans for a medical triage and evacuation system, which spanned across multiple services, technologies and aircraft. Military anesthesiologists can find themselves on humanitarian missions

providing relief for underserved countries across the world equipped with limited space, finances and supplies. These providers design, prepare, transport and deliver the entire anesthetic for these remote areas. All providers report of their service with fondness and are eager to return to the deeply grateful patients and the adventure of rural medicine with its dramatic pathology and the simplicity of their preparations. It is this combination of extreme circumstances and tasks that forge new perspectives and increase their abilities to adapt and overcome, despite a surplus of crisis, chaos and critically ill patients.

Clinical Duties

The military anesthesiologist's scope of clinical practice spans across multiple specialties, such as intensive care medicine, emergency medicine, trauma medicine, internal medicine and others. In addition, they negotiate extremes in climate, contribute to the manual labor to sustain the military compound, and create diversity within the constraints of compound life.

They function in portable surgical suites, such as metal containers or tents. Their routine duties are interrupted with marked mass casualties that exceed most modern American Level-1 trauma centers. Patients are stabilized and transported across escalating levels of care, which span across continents, all forms of transportation and various providers from all uniformed services.

For example, the Air Force employs some anesthesiologists as the intensivists for its Critical Care Air Transport Team (CCATT), which moves critically ill patients from remote areas, such as the theater of war, to tertiary care centers. These missions require the anesthesiologist to plan, prepare, pack and employ all the needed equipment and supplies to resuscitate and sustain critically ill patients for many hours and thousands of miles in the dark and deafening noise on a military cargo plane.

Some military anesthesiologists are sent as part of forward surgical teams with surgeons, emergency physicians and registered nurses to provide emergent triage and surgery out of backpacks in forward combat positions, natural disasters, humanitarian relief and terrorist-related scenarios. These providers plan, prepare and deploy their care from five backpacks.

Similarly, natural disasters frequently involve military anesthesiologists as the initial providers during the resuscitation and transportation of critically ill patients to tertiary facilities. Hurricanes, tornados, volcanoes, forest fires, tidal waves, earthquakes, explosions and riots have all required these providers to adapt to unpredictable injuries and unimaginable conditions with limited resources and support.

Following Hurricane Katrina, Air Force anesthesiologists assisted in the transport of hundreds of critically ill patients from the flooded city of New Orleans to neighboring states. The Army created a tent hospital center, which served as the only hospital

and Level-1 trauma emergency center for a city that once enjoyed several giant and sophisticated medical centers. Their success followed careful planning, preparation, teamwork, expertise and relentless efforts to adapt and overcome the many unimaginable obstacles.

Emotional

Most providers agree that military anesthesia deployments can test their character and emotions. While some find humor amid the boredom of maintaining a quiet installation of past conflicts, some describe dodging the heat and sand of the desert. Others speak of wrestling with the noise, temperature and turbulence of military aircraft. Several have told of filing into the local bunker as a siren alerts to possible mortar attacks.

Remarkably, many agree that their initial fears melt into common place when engaged in the selfless act of patient care. Others recall their most cherished moment while emergently caring for a wounded American troop as they enter the operating room still dressed in dirt, camouflage and bullet proof vests. It is learning their names and of their loved ones at home, while imparting hope through a smile and an encouraging word as they drift to sleep. Despite their personal peril, it is common to hear American troops ask, "Doc, how long until I can return to fighting? My friends are still fighting and they need me!" Several of my peers have confided that deployment life is a personal hardship. But, caring for wounded American troops has been one of the most meaningful things they have ever done in their life.

Training

Providers enter military training in anesthesiology for many reasons, which commonly include finances, intrigue and patriotism. Despite their motives, military training programs are postured toward these military requirements. The stated goal of the SAUSHEC anesthesiology residency program is to turn out the very best-trained anesthesiology consultants, who can excel in the military environment.

As a result, military residencies in anesthesiology attempt to equip trainees for deployment anesthesiology. Their training has an added emphasis in trauma surgery, regional anesthesia and burn medicine. Their training is mingled with annual workshops in difficult airway management, transesophageal echocardiography and advanced regional anesthesia. The Navy, Army and Air Force have ACGME-accredited residency programs across the nation. Wilford Hall Medical Center (WHMC) in San Antonio, Texas, has served as the flagship of Air Force medicine for decades, which offers nearly every aspect of tertiary medical care and the bulk of its medical training programs. Brook Army Medical Center (BAMC) in San Antonio, Texas, is the Army's newest and most technically advanced hospital, which functions as a Level-1 trauma center and the home of the Institute of Surgical Research

and Extremity Trauma (ISR), a state of the art burn care center and research depot. The anesthesiologists at BAMC maintain the Research Center of Excellence for Total Intravenous Anesthesia (TIVA) as the home of the Triservice Anesthesia Research Group Initiative on TIVA (TARGIT) to explore its military applications. The National Naval Medical Center (NNMC) and Walter Reed Medical Center (WRMC) are similar institutions on the east coast, which are associated with the nation's primary medical research center, the National Institutes of Health (NIH).

Historically, military graduates have been outstanding, with near perfect passing rates of the written and oral board exams. Military anesthesiology alumni have contributed to respiratory care through the advent of intermittent mandatory ventilation (IMV) and high positive end-expiratory pressure (PEEP) ventilation. As alumni, they have gone on to be departmental chairmen, leaders in academic residencies, authors of anesthesia textbooks and numerous medical and public publications. Some have become editors of major journals and served as a president of the American Society of Anesthesiologists (ASA). Indeed, military anesthesiologists become inclined to serve as leaders, educators and innovators that have dotted the map and history with their contributions.

Summary

My former chairman recognized a pattern of “expertise, maturity, work ethic, duty and ability to adapt,” which were forged by early responsibility and heroic challenges. These providers learned firsthand the critical value of teamwork, determination and adaptability. They succeeded at doing more with less, traveled many extra miles and improvised when many would yield. I believe it was these ideas that caused my chairman to suggest that a department full of military-trained anesthesiologists “would solve many of the problems that I face as a chairman in anesthesiology.” In many ways, the military houses one of the last frontiers of anesthesiology where technology and sophistication must give way to simple tools and basic medical principles. Their solutions are won through innovation, determination and adaptation. Like all pioneers, these providers emerge with war stories and battle wounds of the soul and body. But, they emerge stronger, undeterred and more able than before. More importantly, most report that the care they rendered during their military missions was the most meaningful of their career. One provider commented that he thought he enjoyed delivering anesthesia, but he added with tears in his eyes that “helping our soldiers in their dire need was the best experience of my career and possibly my life.”

Some would argue that greatness is not what we become but rather what we do. A military anesthesiologist is not a life of wealth, privilege and prestige. However, the life of a military anesthesiologist will involve thousands of military members that volunteer to stand in harm's way for America and its allies' sake.

Compared to its civilian counterpart, military anesthesiology is a selfless, industrious and relentlessly demanding profession without commensurate praise, comfort or financial gain. Nonetheless, a military anesthesiologist finds meaningful reward in raising the fallen soldier, in the grateful tears of his or her family, and the consolation that their expertise may have aborted the misfortune of those serving who dare to give everything.

NOTE: *The content of this publication is the exclusive opinion and interpretation of the author and not that of the Department of Defense or one of its uniformed services.*

CHAPTER 7

What Makes a Competitive Anesthesiology Candidate?

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Anesthesiology is a very demanding field. It requires skill, speed, knowledge, judgement and vigilance. These traits have not only brought you success in medical school but are your main highlights in gaining acceptance into the anesthesiology residency of your choice. Use the tools that have brought you to this point. Highlight your strengths and brush up on some tips about interview skills. Use this chapter as a guide to prepare yourself for the application process. Good luck.

What are Residency Programs Looking For?

Residency programs are not only looking for the best and the brightest, they desire an applicant who will be a “good fit” into their program. As an interviewer, I remember my first interview session when I was told to look at the applicants not only as the future of anesthesiology but as future partners.

Applicants must be able to function compatibly within the program, having similar goals and educational styles. For example, a student who learns only from lectures and tutorials will not do as well in a program noted for clinical excellence and independent study. Both the applicant and programs are searching for a successful partnership.