

# A Medical Training Event for Special Forces Medical Sergeants

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## ABSTRACT

Special Forces Medical Sergeants (SFMS) are independent multidisciplinary medical personnel who possess unique medical skill sets that require regular practice in order to maintain proficiency. Due to high operational tempo, the windows of opportunity to practice these abilities are usually limited to short periods of required training to maintain credentials. A Special Forces (SF) Battalion allowed their medical section to orchestrate a weeklong medical training event that included emergency procedure lectures, human cadaver training, ultrasound familiarization, medical administration instruction, and behavioral health discussions. This training enabled the SFMS to hone their competencies and increase their clinical confidence while working and learning from each other and other medical providers. The training event was a great success.

**KEYWORDS:** Special Forces, skills sustainment, cadaver training, ultrasound, emergency medical procedures

The old adage of “use it or lose it” is not more true than in clinical practice. It has been well demonstrated in medical literature that provider proficiencies diminish rapidly over the course of time and necessitate regular review, practice, and feedback in order to maintain aptitudes. Even skills as seemingly “basic” as quality cardio-pulmonary resuscitation (CPR) can degrade quickly if not revisited, retrained and practiced.<sup>1-4</sup> Recently, an SF battalion held a unique medical training event. The history, thought processes, impetus, coordination, and execution of this event are described in this article.

Currently SF has an exceptionally high operational tempo. Between pre-mission training, combat deployments, recovery, joint combined exchange training, small unit exchanges, advanced schooling, and other training and “taskers,” it is proving increasingly difficult for SFMS to find time to attend medical training outside of their basic credentialing and recertification. Per regulation, every two years the SFMS are required to attend the Special Operations Combat Medic Skills Sustainment Course (SOCMSSC) and a Non-Trauma Module and Medical

Proficiency Training (MPT) every four years to maintain their credentials. During this mandatory training, certifications in Basic Life Support, Advanced Cardiac Life Support, and Pediatric Education for Prehospital Professionals, and Advanced Tactical Practitioner are renewed.

Additionally, SFMS orchestrate and train their teammates in Tactical Combat Casualty Care (TCCC) principles and oversee a practical medical exercise prior to every deployment. While all of these training events are of great benefit and certainly provide an excellent environment in which skills are refreshed, the infrequency of such training makes thorough skills sustainment challenging. In addition, with the majority of training focused on point of injury management, the author found that most of his battalion’s SFMS reported feeling uncomfortable when challenged with the prospect of holding a critical patient for 72 hours, performing a wound debridement, completing an amputation, and performing other emergency procedures and nursing care.

Although recent operations have afforded SFMS the opportunity to practice in mature battlefields with ample resources and readily available medical evacuation assets, most areas to which SFMS have historically deployed to and operated in do not possess such luxuries. As in the past, operational detachments—alpha (ODA) will again to live, work, and practice in austere environments where the SFMS might be the only “doc” for hundreds of miles. In addition, future battlefields are not guaranteed to have any medical assets readily available, meaning SFMS must have a well-developed and full spectrum of clinical expertise.

An analogous skill would be marksmanship and the time an Operator spends at the range practicing. There are patterns of muscle memory that require extensive practice for the action to be natural, such as transitioning from the primary weapon, drawing, and shooting the secondary weapon. Secure your primary weapon and grip your secondary, draw, remove slack from trigger, front site post, front site post, front site post, BANG,

BANG. How many repetitions does it take for an Operator to feel comfortable in this scenario? Having movements such as this be second nature is paramount, as the actions that have practiced repeatedly will be executed more successfully under stress and threat.

If these combat actions are not “second nature” in a controlled environment and under simulated stress the result can be hesitation, inefficiency, inaccuracy, and possibly an untoward outcome.<sup>5</sup> Imagine if an Operator only spent four weeks every four years or two weeks every two years practicing his marksmanship skills: one could not expect proficiency, much less excellence. This is the same with SFMS practicing lifesaving procedures. If the SFMS does not have these procedures etched into his brain as second nature, precious seconds and minutes will be lost— which can be the difference between saving a fellow Soldier’s life and losing one.

Many may perceive medical training as not as fun or exciting as other available training, and it is often an afterthought. However, the SFMS professional competencies are the variables that not only save lives but serve as a means for entry and acceptance into villages and communities, as seen in recent village stability operations. Therefore, it is incumbent on SFMS, physicians’ assistants (PA), and Surgeons to be proactive in seeking out advanced medical training opportunities.

Much of the training SFMS undergo is under the purview of SOCMSSC instructors and MPT site providers, which limits the opportunities for the Battalion Surgeon or PA to engage in the training process. While the SFMS may work with his provider on occasion during sick call or a consultation regarding a team member, the majority of the trauma management and procedure opportunities present themselves when the SFMS is performing mandatory training under the supervision of other instructors or providers. This produces the potential for a gap in the relationship between the SFMS and their Battalion providers as the medic practices under their providers’ license and supervision.

The paucity of battalion provider involvement in training can act as a double edged sword in that the SFMS does not necessarily receive needed feedback, mentoring, and skill development; and the providers may have apprehension about incurring risk by allowing a medic with whom they are unfamiliar have autonomy while practicing under their license. In the past collegial trust and collaboration, and resultant autonomy, was fostered through a continuity of service. SFMS would work in the same team, company, and battalion with the same PA and physician for years, working, training, and deploying together. This stability within a unit is ideal, but is often impossible with the current operational tempo and

a high turnover within the regiment. It is critical to find a means to maintain this high level of collegiality and trust, especially in today’s litigious society and in theatres with increasingly restrictive and complex medical rules of engagement.

In the summer of 2010, our Battalion Commander noted a trend in the training proposals being submitted for his review and approval. He noted that many of the training events looked solely to outside civilian support and expertise in instruction, when those with extensive knowledge and experience were serving within the force. Noting that there were subject matter experts readily available at the team and battalion level, he directed the battalion leadership to plan and carry out a Military Occupational Specialty (MOS)-specific week of training. The idea was to take the ODA—a team of experts in their own disciplines—and split them up so they could focus on training in their own specific skills and have the more experienced operators share their knowledge and unique experiences to further educate their colleagues. The goal was to not just maintain and practice known skills, but to also take a step forward in knowledge and expertise. As hoped and expected, the task of coordinating the training for the SFMS was given to the battalion medical section.

The MOS week’s design, proposal, concept, and coordination quickly became the top priority for the battalion medical section. Five days of uninterrupted and focused time to work and train with the Battalion’s SFMS was appreciated as a unique opportunity. Sergeant First Class (SFC) Michael Faircloth (battalion medical Non-Commissioned Officer), Major (MAJ) Charles Neal (battalion PA), and I had informal discussions with the senior SFMS in the battalion to gain a better understanding of extant knowledge gaps or perceived shortcomings in training. In addition to these discussions, we determined that there were specific instruction and skills that we wanted to cover. We also decided that the senior SFMS throughout the battalion should and would play an active role in the teaching process. As one of the unique qualities of a Special Forces Operator is the ability to teach and train others, there is no better audience than your peers. Inclusion of the senior SFMS for training content and instruction would also help to build “grass roots” support for a training event that could be perceived as another poorly-received, top-down, “mandatory fun” initiative.

After much discussion, all agreed several critical pieces needed inclusion in the training. Emergency procedure review lectures, human cadaver procedure lab, clinical simulation training, ultrasound familiarization, medical administrative skills, and behavioral health topics would serve as the framework for the program of instruction. With only forty hours allotted for instruction and laboratory time, the training needed to be scheduled

precisely. With the general program of instruction outline in mind, our next step was finding a location with the personnel, facilities, and willingness to support such varied and sensitive curriculum.

The Group Medical Section had recently developed a relationship with the Methodist Research Institute (the Institute) in Indianapolis, Indiana, so it was known that they possessed some of the lab space needed for our training requirements. SFC Faircloth and I decided a pre-deployment site survey was necessary to determine if this facility could meet the training requirements. We were pleasantly surprised to find a lab staff that was familiar working with the military, a human simulation laboratory, and an association with an adjacent hospital that was able to accommodate our mortuary, laboratory, and classroom space requirements, including access to computers, the internet, and overhead projection capabilities. Having found a suitable location in reasonable proximity to Fort Campbell, the team reserved the dates of training at the facility and provided the Institute's staff with a rough outline of the period of instruction. With the training facility secured, the next step was to coordinate for appropriate numbers and types of medical models and equipment to be utilized for the training.

One of the key elements of training that we wanted to incorporate was the use of cadaveric models. As most of the SFMS had not had an opportunity to see human anatomy in detail since their initial training, we wanted to incorporate the practice of procedures and provide an opportunity for anatomy exploration and familiarization. Regardless of how many simulated procedures have been performed on mannequins or simulation models, there are significant differences compared to real human flesh, blood, and bone. We also had many young SFMS in our ranks that had not had much experience dealing with real-world injured or dying patients.

As death is a natural part of life, we saw this as an opportunity to have all of us become more comfortable in dealing with the deceased and an opportunity for desensitization for those that have not had much experience in this realm. We worked through the Institute's staff to acquire some of our cadavers through the University of Indiana, as they have an ongoing relationship with the university's medical school. They were only able to provide half of the number of cadavers we needed for training, so we contacted another institution to acquire an additional five cadavers. With the facility and models secured, we turned our focus toward a more detailed schedule that would incorporate the critical elements of training.

While it was tempting to start training with the unique and exciting parts of the program of instruction, we recognized the need for review of the numerous procedures

to be performed. As discussed above, we engaged our senior SFMS early in the planning process and made available a list of proposed procedures to be reviewed and performed during training. Each SFMS picked a procedure to research, prepare, and present to their colleagues. It was decided to use the first day of training as a classroom-based review of all procedures prior to embarking on the laboratory portion. The day began with an introductory lecture and a brief overview of the facility and locations of training. Each senior SFMS presented their procedure lecture to the class, taking 30–45 minutes per person. While the SFMS did an outstanding job instructing their peers, a full day of sitting and listening to lectures was difficult for all.

The second and third days of training were utilized to train with the human simulation models and cadaveric models. The SFMS were divided into two groups, with half of the class focused on the human simulation models while the other half focused on cadaver training. Drawing on support from other Group and regimental resources, we had two physicians and two PAs to oversee the training. This worked out to each group of twelve had a physician and PA working with them. This proved to be a successful ratio, providing sufficient time for personal instruction and discussion, with adequate administrative and medical oversight. This enabled the SFMS to take on the role of student, focusing on learning and asking questions that arise in the midst of the procedures and simulated resuscitations. These two days proved to be the highest value instruction time, with each SFMS having the opportunity for individualized instruction.

A key aspect that set this training experience apart from previous training events was the environment. Historically, most of this Battalion's medical sustainment training has been performed in a field-like environment, focusing on the Care Under Fire and Tactical Field Care aspects of TCCC. While the SFMS have an opportunity to practice some skills, their focus is on training their teammates and practicing those TCCC specific procedures. Most of these SFMS had not been given an opportunity to utilize their medical knowledge or skill set outside of TCCC since completing training. Removing potential distracters and using a clinical setting that was well lit, cleaner, and devoid of distraction allowed the SFMS to focus on honing their more advanced medical skills in an environment that is more commensurate to the manner in which they would be performing the procedures. That is, if this care were utilized in a real-world situation, they would take place in a more controlled environment away from the fight. More specifically, these advanced procedures and medical care would likely be performed in a place specifically established for medical care, an indigenous clinic/hospital or a thatch hut that has been configured to serve as a clinic (Figure 1).

Figure 1 A SFMS practices orotracheal intubation as an assistant simulates limitation in movement by holding cervical spine control

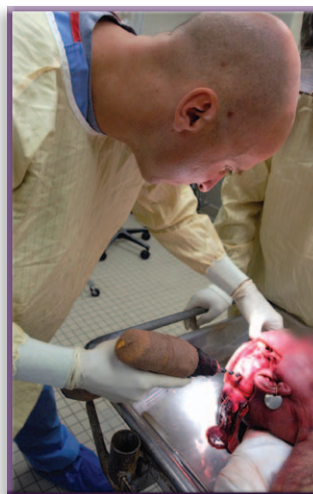


Figure 2 A SFMS practices an emergency cranial decompression using a standard cordless drill

The cadaver training was carried out in a separate part of the facility and short walk away from the human simulation lab. This small distance worked to help provide a physical barrier between the two groups. This was ideal in that junior and senior medics from the same team were placed in different groups and SFMS from the same company were divided between the groups intentionally. This allowed for senior and junior medics from different teams and companies to mingle, helping to forge professional relationships and break down some of the artificial barriers that exist due to team type or number. In addition, we did not want some to feel the need to “take the lead,” while others worked in their shadow. As there was one cadaver for every two SFMS, each was able to perform a great number of procedures in a short period of time.

While common emergency procedures such as chest tubes, cricothyroidotomies, and pericardiocentesis were the mainstay of the lab, less frequently performed procedures such as cranial trephination (burr holes) and lateral canthotomies were practiced as well. In addition to the scheduled procedures, one SFMS chose to practice his surgical skills by performing a lower extremity amputation. The Battalion PA, fellowship-trained in orthopedics, spontaneously added to the program of instruction by dissecting a cadaver’s forearm for visualization of structures and an anatomy review (Figure 2).

The fourth day of training focused on familiarization and practice with the Battalion’s newly fielded ultrasound machines. This compact means of medical imaging is quickly becoming the regiment’s answer to far forward imaging needs.<sup>6-7</sup> An emergency medicine physician in an ultrasound fellowship training program at the C. R. Darnall Army Medical Center lectured the SFMS as a class and assisted in small group practical sessions. In addition, a regimental PA (who is also a great advocate for ultrasound implementation in the

force) assisted with the small group instruction and familiarization. This training provided an opportunity to expose the SFMS to ultrasound, some for the first time. As ultrasound is portable, relatively durable, provides an exam that can be repeated/practiced many times, and has many applications, it is an ideal tool for SFMS to be familiar with. Through this one-day course, the SFMS further recognized the potential benefit of ultrasound in providing an imaging capability where there has previously been none. While all recognized their need for additional training in order to achieve proficiency in its use, the introduction of this tool was met with a great deal of excitement (Figure 3).

The fifth day of training was utilized to address two often forgotten or neglected aspects of the SFMS practice: medical administration and behavioral health. A Medical Protection System (MEDPROS) expert from Fort Campbell provided a block of instruction to assist the SFMS in creating team rosters and establishing username and passwords for system access. This access enabled the SFMS to not only see a comprehensive list of their

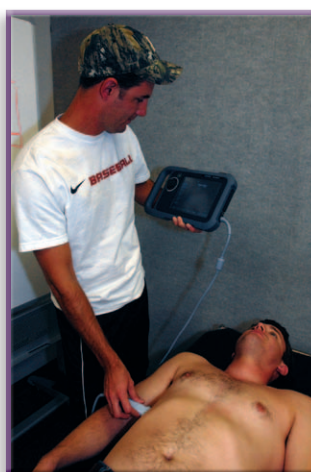


Figure 3 A SFMS practices his ultrasound skills with the newly fielded ultrasound machine



teams' medical needs, but also enabled them to update their teams' immunization status after they vaccinated them. After the MEDPROS block of instruction, the Group psychologist led a lecture and discussion regarding mild traumatic brain injury (mTBI), post-traumatic stress syndrome/disorder (PTSD), and substance abuse. While these behavioral health subjects are often covered ad nauseum in "official" Army classes and meetings, this small group lecture and discussion provided an opportunity for the SFMS to ask candid questions that were relevant to them and their teammates. The informative lectures and follow-on discussions provided the SFMS with an improved ability to recognize the warning signs of posttraumatic stress symptoms and substance abuse.

As the Battalion plans a second iteration of this training event, lessons learned from this event will be incorporated to improve the event's content and administration. While the first training event was a great success overall, some aspects will be improved upon. The following are several actions to consider:

**Engage chain of command and leadership early for oversight and approval.** Some portions of training have significant oversight requirements, including approval of the facility used and research protocol. While our leadership was user-friendly, the legal aspects of such training need to be addressed to ensure the SFMS, Battalion staff, and others are not placed into a potentially compromising situation. While this does take some extra time and effort, it is mandatory. In our case, we had to scramble to meet all of the requirements, but were able to do so.

**Schedule the training event several months in advance.** By scheduling several months out one can have enough time to deconflict the proposed training schedule and proposed training area in regard to other events, both military and civilian. As we attempted to make reservations for the block of hotel rooms, we found that during the same week our training was scheduled, the Future Farmers of America were having their national conference in Indianapolis. While we were able to find reasonable accommodations with some effort, lodging was a short drive away as opposed to walking distance as initially planned. This unfortunately caused us to incur some additional hotel and parking charges that could have been avoided if planning had started earlier.

**Expect unique challenges in coordination.** When coordinating for additional cadavers, we learned that some institutions have specific rules regarding the use of cadavers. Specifically, in a phone conversation with the very nice assistant, she asked, "There is not really an easy way for me to ask you this . . . Do you plan on blowing up these bodies, because we do not feel comfortable with them being used in that manner." I assured her that our

intentions were purely medical, and at their request, submitted a copy of our program of instruction for review and approval prior to them agreeing to loan us the cadavers. Not all facilities have this restriction and some will allow for their cadavers to be used for testing of protective equipment and blast injury training. In addition, interstate rules and regulations limited from whom we could purchase the cadavers.

**Bring more than you need.** When packing and preparing equipment for training, plan to take more than you plan to use. Obviously take all of the equipment you will need to perform all of the procedures planned for the labs, and then some. An additional small expenditure prior to training can save a great deal compared to purchasing the needed equipment while on site. The mark-up required for purchasing, stocking, and supplying this equipment proved quite expensive.

**Consider only one-half day for cadaver training.** The after actions review (AAR) comments of the SFMS from the first training iteration recommended that the cadaver training be only half of a training day. When purchasing cadavers, we intentionally purchased one cadaver for every two SFMS. This gave each an opportunity to do all procedures desired on their side of the body. This ratio was generous and enabled the SFMS to work quickly to complete all procedures, in approximately 4.5 hours for most. In addition, as the training day progressed, the fresh frozen cadavers (i.e. no embalming) began to stink. While tolerable for a short period of time, the unpleasant odor became overwhelming quickly and made training difficult. For our next iteration we plan to condense the cadaver training to a half-day and incorporate an additional half-day of simulation training.

**Consider additional anatomy familiarization and "pro" dissections.** MAJ Neal performed a forearm dissection of a cadaver with one of the SFMS during the lab. While this was not a scheduled part of the curriculum, it was very productive. All of the SFMS wanted to see firsthand the structures they knew how to evaluate in their physical exam. In future iterations, we will attempt to perform additional dissections for the SFMS to learn from and then explore.

While this training event took a great deal of time and energy for the battalion medical section to coordinate and orchestrate, the training was given high praise by all involved. In the author's opinion, a good litmus test of training is the value the Operator ascribes to it. In the AAR comments following the training, multiple senior SFMS reported, "This was the best medical training I have ever had." This training event proved to be an excellent alternative to civilian courses in that it was successful in utilizing the force's internal resources for

instruction, training, and oversight and was also cost effective. In addition, the SFMS received a dual benefit by serving as both instructors and students. Most importantly however, the SFMS had the opportunity to practice their unique skill set and improve confidence in their abilities, which will help to save lives in the future.

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### References

1. Martin WJ, Loomis JH, Lloyd CW. (1983). CPR skills: achievement and retention under stringent and relaxed criteria. *Amer J Pub Health*; 73(11):1310–1312.
2. Woollard M, Whitfield R, Newcombe RG, et al. (2006). Optimal refresher training intervals for AED and CPR skills: a randomised control trial. *Resuscitation*; 71(2): 237–247.
3. Mancini ME, Kaye W. (1985). The effect of time since training on house officers' retention of cardiopulmonary resuscitation skills. *Am J Emerg Med*; 3(1):31–32.
4. Gass DA, Curry L. (1983). Physicians' and nurses' retention of knowledge and skill after training in cardiopulmonary resuscitation. *Can Med Assoc J*; 128(5):550–551.
5. Grossman DA. (2007). Fear, physiological arousal and performance: conditions white, yellow, red, gray and black. In Grossman's *On Combat: The Psychology and Physiology of Deadly Conflict in War and Peace—2nd ed.* Warrior Science Publications. 30–49.
6. Keenan S, Morgan AR, Blankenship R, Hubler DA. (2008). Ultrasound in Special Operations medicine: A proposal for application and training. *JSOM*; 8(4):47–54.
7. Morgan AR, Vasios WN, Hubler DA, Benson PJ. (2010). Special Operator level clinical ultrasound: An experience in application and training. *JSOM*; 10(2):16–21.

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