

2nd Place
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TACTICAL COMBAT CASUALTY CARE:

A Case Study of NCO Technical Professionalism

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Leader development is achieved through the lifelong synthesis of knowledge, skills, and experiences gained through institutional training and education, organizational training, operational experience, and self-development.

—FM 6-22, *Army Leadership*, October 2006¹

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PHOTO: Combat Life Saver Course students provide tactical combat casualty care on a simulated casualty during a mass casualty exercise at the Jameson Combat Medic Training Center, Joint Base Balad, Iraq, 4 March 2009. (U.S. Army, SGT Clifton Caldwell)

THE ARMY POSSESSES a corps of noncommissioned officers (NCOs) unparalleled among the world's militaries. Noncommissioned officers assigned to maneuver units deserve praise for their ability to adapt, with agility, to the roles of Soldier, leader, and trainer. Because of the wars in Iraq and Afghanistan, NCOs have become master communicators, diplomats, strategists, and mediators; however, NCO growth and mastery in technical areas may be overlooked. In specialties such as communications, engineering, and computer science, NCOs have transformed the U.S. land force into an entity for which the word "army" seems simple and antiquated. Due to their dedication and ability to learn, the men and women who deploy in support of U.S. national security represent a team of multidimensional experts.

A good example is combat casualty management. The case fatality rates for the wars in Iraq and Afghanistan are the lowest on record. Experts credit two items for this development: body armor and battlefield first aid. Arguably, the more dynamic and ethereal component of this two-armed success is medical care. Unfortunately, reducing its actions to the term "first aid" depersonalizes heroic deeds performed by Soldiers within a frightening kinetic environment. The "medic," or Military Occupational Specialty (MOS) 91W, is one of many unsung heroes of the wars in Iraq and Afghanistan.

Using the combat medic as a case study, I will evaluate technical professionalism in the Army as a micro-revolution in military affairs. To describe the transformation of the combat medic during the first decade of the new millennium, one must trace the roots of change to decades past. In the 1980s, careful analysis of the lessons of the Vietnam War set in motion a chain of events that led to the creation of the modern U.S. medic. During the 1990s, the lessons learned from Vietnam gradually became part of reformed medical training. When war broke out in Afghanistan in 2001 and Iraq in 2003, the U.S. military found itself at a crossroads of medical doctrine. Without hesitation, the Army attacked the challenge and instituted a fundamentally new model of battlefield first aid.



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A medic from the 1st Battalion, 16th Infantry, 1st Infantry Division, searches the sky for a medevac helicopter to evacuate a wounded buddy following an air assault, Vietnam, June 1967.

The medical NCO was influential in every chapter of this growth in medical professionalism. Medical NCOs first provided proof of concept. Thereafter, the Army entrusted them with the vital task of teaching, training, and mentoring a new breed of combat medic. The Army Medical Department Center and School in San Antonio, Texas, delegated the details of institutional change to the medical NCO. When the luxury of time dissipated with the onset of combat operations in 2001, the medical NCO provided a “hip-pocket” training bridge from old doctrine to innovative practice on the battlefield. The stakes were high, and there was no guarantee of success. At each step, the Army placed more expectations upon the medical NCO. The lower case fatality rates in Iraq and Afghanistan are a testament to the degree in which NCOs have met these expectations. The achievement of this standard reflects a model of organizational leader development. NCOs continually supported, reinforced, and expanded good ideas with professional and technical competency.

Understanding Soldier Combat Medical Needs

Today’s combat medic owes much of his success to the pioneering work of Dr. (Colonel) Ronald F. Bellamy. Using theoretical models and data on wounds and munitions effectiveness in Vietnam, Dr. Bellamy sought to understand how Soldiers died on the modern battlefield.² In his 1984 article, “The Causes of Death in Conventional Land Warfare: Implications for Combat Casualty Care Research,” Bellamy reached two important conclusions: first,

that 90 percent of Soldiers killed in action suffered unsurvivable, catastrophic deaths while only 10 percent had injuries that were potentially survivable; and second, that 98 percent of patients who reached medical aid stations while still alive, ultimately survived.³

The importance of these discoveries became clear over time. First, the work revealed a group of patients with a small subset of injuries for whom medical action would have a life-saving effect. Second, in these patients, the pivotal time and place for intervention was on the battlefield immediately after the injury. If patients were resuscitated sufficiently enough to reach an aid station alive, then survival was highly likely. Finally, Dr. Bellamy found that the most important intervention in preventing death was controlling hemorrhage, particularly in extremity wounds. Instead of attempting to approach specific treatment for myriad potential combat injuries, Bellamy focused resuscitation on the few injuries in which intervention would change outcomes.

In 1996, Frank K. Butler, John Hagmann, and George E. Butler used data from Vietnam (including the Bellamy data) to demonstrate the shortcomings of the military medical training of the era.⁴ They formulated a guide for medics that focuses on—

- The medic as pivotal in combat survival.
- Critical early stages of injury intervention.
- A simple and memorable recipe of action.
- Tourniquets and hemorrhage control.
- Procedures to treat tension pneumothorax and airway obstruction.

The article directed guidance specifically to medics who, as first on the scene, truly stand at the nexus between life and death. It recommended that they use practices that were predominantly the domain of physicians in civilian medicine. Included among these actions were the field administration of antibiotics, narcotics, and new-generation resuscitation fluids. Additionally, it recommended the aggressive use of technical procedures such as the application of tourniquets, surgical cricothyroidotomies, and needle decompression of pneumothoraces.

An organization must wager much when there is much to gain. The recommended procedures are perilous if performed erroneously or for the wrong indication. The Army mitigated risk in the early stages of medic-directed frontline care by targeting special operations medical NCOs. Because of the environment in which they operate, these

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NCOs take care of their wounded comrades from hours to several days without physician support. They receive training beyond that of conventional medics. In some cases, they are required to perform primary care medical missions that may cross into the realm of a physician's practice. The Butler, Hagmann, and Butler article recommended openly and officially that critical trauma resuscitation knowledge be passed to special operations medical NCOs to allow them to save the small subset of patients whose lives hang in the balance when a physician's help is impossible. Their article, "Tactical Combat Casualty Care in Special Operations," captured, at an early stage, a trend of increasing acknowledgment of the combat medic's importance in reducing battlefield fatality rates. Many believe the article decisively changed battlefield medicine. Individual special operations forces (SOF) physicians and physician assistants immediately began to incorporate the foundations of tactical combat casualty care into training programs.

Enabled with new medical knowledge, SOF medics proved its worth. An article extolling medical NCO-implemented tactical combat casualty care in personnel recovery was published in 1999.⁵ The Navy special warfare community rapidly adopted the tactical combat casualty care philosophy for its own medical NCOs.⁶ The program guidelines achieved an even greater degree of legitimacy when the American College of Surgeons adopted them and included them in its manual for prehospital trauma life support.⁷ In its pilot phase, tactical medical care in the hands of medical NCOs was acknowledged as a quantum leap. In training and limited real-world missions, medical NCOs proved they were capable of advanced trauma management.

Tactical Combat Casualty Care and the Conventional Medic

It is not surprising that the tactical combat casualty care model captured the attention of the Army

Medical Department for distribution to conventional units. The 1991 collapse of the Soviet Union ushered in a new era of military threat. With no superpower enemy facing the U.S. military, the Army Medical Department recognized the need for a new type of conventional medic skilled in the missions of peacekeeping, humanitarian aid, and small-scale conflict. In 1999, to better prepare for this spectrum of threat, the department announced the creation of the new medical occupational specialty: the 91W.⁸ Largely the vision of Army Surgeon General James B. Peake, the 91W program created a new medical professional not seen in the civilian world: a combination EMT and licensed practical nurse. Both 91B (medical specialist) and 91C (practical nurse) specialties were subsumed under the new MOS. The Army Medical Department accepted that future conventional combat medics would be operating in small-scale contingency operations familiar to special operations. Colonel Robert De Lorenzo, proponent for the 91W branch, studied the medical NCO model as a possible prototype of the new medic.⁹ Furthermore, he stated that tactical combat casualty care would be included in the training. Accepting that the actions of combat medics were more important than all of the care that followed, the 91W program focused on the principle of "far forward care." In his 1999 introduction of the 91W concept, De Lorenzo discussed the expectations of its predecessor model, the *Future Medic*:

The future medic was an extension of the physician or PA, enabling these far-forward professionals to extend their care all the way to the point of injury or illness. The future medic was envisioned to be highly skilled in emergency care and capable of providing care to critical casualties on long evacuation legs.¹⁰

In the 91W program, conventional medics armed with both physician and physician assistant resuscitation skills and knowledge were to populate the ranks.

The 91W program is ambitious. Under the new curriculum, medics train for 16 weeks rather than 10. Unlike the 91B program, combat medics have to pass the civilian emergency medical technician qualification test to graduate. Training on computerized mannequin-simulators gives students proficiency in the application of resuscitation procedures. Even more important, the training

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gives students implied permission to perform tasks previously taught only to provide basic familiarity (in order to assist a physician, for example).

From the beginning, the creators of the 91W program relied heavily on NCOs. De Lorenzo left no doubt that the responsibility for the “largest reengineering of the enlisted combat medic in history,” would fall on the NCO.¹¹ He stated, “Of course, 91W NCOs and drill sergeants, all specially trained and prepared for their faculty roles, will conduct the majority of training.”¹² At every step along the way, medical NCOs proved that the dissemination of important training was in excellent hands.

Early Care by Conventional Units in Combat

The terrorist attacks on the World Trade Center occurred one month before the 91W training program made its debut. The war in Afghanistan began before the first 91W class had graduated. Even by 2003 and the beginning of hostilities in Iraq, only a minority of combat medics had made the transition from 91B/C to 91W. More importantly, the concepts of tactical combat casualty care had not yet achieved

a tipping point in the field. Writing in 2005, Captain Michael Tarpey, a battalion surgeon with the 3d Infantry Division, stated, “There has been very little spread of the use of the tactical combat casualty care guidelines into conventional units.”¹³ There were, however, pockets of tactical combat casualty care experts deployed with invading forces.

Tarpey’s unit, Task Force 1-15 Infantry, 3d Infantry Division (TF 1-15 IN), provides an example. In his article, “Tactical Combat Casualty Care in Operation Iraqi Freedom,” Tarpey describes how he, his physician’s assistant, his medical platoon sergeant, and other medical NCOs put enlisted battalion medics through a three-month course in tactical combat casualty care.¹⁴ The course terminated shortly before the unit attacked from Kuwait into Iraq as one of the lead elements of the ground invasion on 21 March 2003. Using scenario-based training techniques identical to those Special Forces units espoused in 1999, the task force medics became so adept at using advanced techniques to treat mock patients that “recognition and treatment, at times, simply involved muscle memory.”¹⁵

In the first 25 days of combat, in spite of 32 wounded, TF 1-15 experienced no killed-in-action. Tarpey became one of many apostles of the tactical combat casualty care message. He stated that the tactical combat casualty care guidelines “have proven to be lifesaving and their widespread dissemination should be first priority.”¹⁶ Other units implemented tactical combat casualty care in preparations for combat. One such unit was the 173d Airborne Brigade that committed to the fight on 26 March 2003 by parachute assault of the Bashur Airfield in northern Iraq. Much like TF 1-15 IN, the 173d used senior NCOs to train medics extensively on tactical combat casualty care before deploying. In addition to classroom and scenario-based training, medics received the appropriate pharmaceuticals and tools to perform tactical combat casualty care procedures. As a further step to ensure that tactical combat casualty care knowledge was always on hand, Soldiers carried laminated “smart cards.” Because the brigade surgeon and battalion physician’s assistants were heavily involved in medical planning, they delegated the important task of training medics in tactical combat casualty care to senior NCOs and early graduates of the 91W program.



SGT Philip Windhorst, center, instructs SPC Antonio Manzano as he administers intravenous therapy for SSG Raymond Calixte during a combat lifesaver course on Forward Operating Base Kalsu, Iraq, 24 January 2009.

DOD, Petty Officer 1st Class Wendy Wyman

The medical NCOs of the 173d played a critical role in the creation of a team of medics of incomparable professionalism. Point of injury care was so complete that, on several occasions, it made the expertise of the brigade surgeon irrelevant. Noting that no further care was necessary at the brigade aid station, the brigade surgeon simply performed rapid reevaluations of patients (without intervention) before evacuating them to the nearby forward surgical team. In these cases, physician-level aid station care was not necessary because NCOs had already completed care at the place and time it was needed most: on the battlefield just seconds after the injury. There is little doubt that the vision of far forward care created by Peake was, in some measure, realized in Operation Iraqi Freedom. Part traditional medic, part nurse, and indeed, part physician, the 91W represented an unparalleled advance in professional medicine and combat resuscitation.

Wide Dissemination of Tactical Combat Casualty Care

While it is unlikely that the experiences of TF 1-15 and the 173d were unique, as time went on, units not trained in tactical combat casualty care became the exception. Consistently leading the way, the special operations community established a “Committee on Tactical Combat Casualty Care” in 2001. Sitting with the likes of the U.S. Surgeon General and world-renowned experts in trauma and burn surgery, no fewer than seven medical NCOs served on the committee in 2004-2005.¹⁷ Finding tactical combat casualty care under-penetration of the special operations community, the committee, in 2004, recommended the initiation of the “Tactical Combat Casualty Care Transition Initiative Model.”¹⁸ This program, sponsored by the U.S. Special Operations Command, provides a three-day crash course on tactical combat casualty care to

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special operations units in the six-month window prior to deployment. The curriculum capitalizes on and depends upon the talent and initiative of local medical NCOs. “Train-the-trainer” sessions begin on the first day so that unit medics can assist in follow-on training in the subsequent two days.¹⁹ The program extends its reach by using medical NCOs in this way.

By 2005, tactical combat casualty care in one form or another finally reached the conventional force at large. Conventional units, including the 82d Airborne Division, the 10th Mountain Division, the 3d Infantry Division, and the 101st Airborne Division, are using variations of the tactical combat casualty care “just-in-time” training curriculum.²⁰ These curricula continue to complement the ongoing population of combat maneuver units with 91W-trained medics from the Army Medical Department Center and School.

Results

While medics have always played an important role in forward care, tactical combat casualty care has rearranged the front-line model. What was once a “hub and spoke” design with the battalion aid station at its center is now a “blanket” or “umbrella” of protection. Medics interspersed among the troops, in many cases, perform all of the functions of the battalion aid station, which is now commonly (and logically) bypassed to get patients more rapidly to surgery.

Surgeon General of the Army Eric B. Schoemaker stated in 2008 that U.S. survival rates in Iraq and Afghanistan were the highest “in the history of warfare.”²¹ As of June 2007, the ratio of those killed in action because of severe wounds was 16.1 percent versus 21.1 percent for Vietnam.²² This represents a 24 percent relative risk reduction between the wars. While there is wide consensus that tactical combat casualty care has contributed to increased survival rates, actual proof of a causal relationship is difficult. As stated earlier, experts attribute survival rate success to the combination of body armor and battlefield first aid. It is unclear what proportion of the improved survival rate is attributable to each variable. Even so, few that have witnessed the results of tactical combat casualty care firsthand (Captain Tarpey, for example) doubt that its contribution is anything but significant.

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In retrospect, it is easy to regard the successful emergence of tactical combat casualty care (both directly and indirectly through its incorporation into the 91W curriculum) as a *fait accompli*. However, that conclusion is too sanguine. Tom Philpott put it bluntly when he stated, “It [was] no small thing for doctors to give battlefield medics more trauma care responsibility.”²³ If not for vigilant training and oversight by leaders, both NCO and otherwise, the practices and procedures of tactical combat casualty care could have resulted in harm rather than benefit. In 2005, Major General George W. Weightman, then-commander of the U.S. Army Medical Department Center and School, called the decision to delegate advanced trauma skills to medics, “a giant leap of faith.”²⁴ This statement, if taken at face value, implies an uncertainty that perhaps did not exist. If it did, it was likely balanced by knowledge of the talents of the NCO corps upon whom the responsibility for program implementation would fall.

I do not wish to minimize the importance of innovations in body armor. The creators of that equipment deserve the same admiration as the names mentioned here. Moreover, to focus solely on the Bellamys, Butlers, and Peakes of the Army ignores a critical feature of the system in which they work. Practical success or failure of ambitious initiatives often belongs completely to NCOs. As the leaders, teachers, and implementers of tactical combat casualty care, NCOs represent the center of gravity, the hub of the concept. Beyond being critical enablers of the finished product, NCOs contributed significantly to every stage of tactical combat casualty care development and dissemination. In the future, NCOs will remain essential to the medical and leader development of combat medics from initial entry to the battlefield.

One should not forget that the medical NCO is not unique in his or her commitment to the techni-

cal aspects of his profession. The infantry NCO has expanded his professional range to include negotiations and diplomacy. The signal NCO has acquired and honed skills in computer science. The paralegal NCO is able to manage most common legal issues without the presence of a lawyer. Additional examples are legion. The medical NCO is one representative of the increased level of professionalization required of NCOs in the modern world. While theorists debate whether an information revolution in military affairs may be underway, there is no doubt about the revolutionary diversity and depth of expertise required of NCOs. The medical NCO example suggests neither a top-down nor a bottom-up process is responsible for achievement of the current end-state. Instead, a mutually supporting organizational learning and leading process appears to be at play in which cognitive breakthroughs by researchers and analysts are implemented by a corps of intelligent, practical, and vigilant NCOs who possess levels of technical and professional expertise heretofore unseen in the American military. **MR**

NOTES

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