Guest Article

Observations on the Gulf War by an Alumnus Who Had a Seat on the Fifty-Yard-Line

Ben Eiseman, MD, RADM (Ret), USNR*

The author details his very candid and personal observations on the medical preparations for Desert Shield and the actual performance during Desert Storm by all three military medical departments. He points to the weaknesses in the system and discusses the lessons that should be learned from this conflict. For each problem cited he suggests possible solutions to be considered by the "powers that be."

The Military Historian S.L.A. Marshall pioneered the historic value of after-action verbal summaries taken from participants immediately following a firefight. At that moment impressions are unfiltered, vivid and the soldier has emotional pressures to unburden himself of his recent experience. Every old soldier knows that the story thereafter gradually changes after its retelling to friends, family and the fellow at the other end of the bar. It is the analogue of such valuable early after-action reports that are recorded in this volume of the *Journal of the US Army Medical Department.* They will form the building blocks for the definitive history of the Desert Shield/Storm operation that will ultimately be assembled. Never before have so many investigative reporters used new technologies of communication to record from so many so promptly their impressions of what happened during the eight months of the Gulf War.

A balanced history of a battle or war requires many years to evolve. The first accurate description of the Battle of Trafalger appeared more than 120 years after the fact. Precisely what happened at Jutland is still confusing, and who knows how the Vietnam War will fit into global military, political and diplomatic history 50 years from now.

Every person's interpretation of a battle or war reflects his personality, past experience and what he actually saw during the event. Regardless of rank, each person's first-hand horizon is limited by his eye level. My commentaries are those of a retired Reserve Surgeon who has served in three previous US wars and was peripherally involved in a few other conflicts over a period of almost 50 years. My experience has been almost equally with all three branches of the military. My civilian profession is in practice, teaching and research as a Professor of Surgery in an academic setting. My professional interests have over the years centered upon management of the injured. Largely through keeping my Reserve Commission and by upward failure, I have personally participated at almost every level of battle care management, and in later years been involved in various national decisions and policies regarding casualty care.

In early August 1990, I offered to suit up again and serve, but was politely asked to sit on the 50-yard-line and be available if my help should be needed — "Do not call me, I will call you." On a couple of occasions those in charge were polite enough to ask my help from the bench, or on the periphery of the huddle in Army hospitals in Germany when someone thought that corporate memory might be helpful. As every old hand knows, the most common reason for asking such opinions is to re-enforce a decision that has already been made on a controversial subject.

The following personal comments should be interpreted in this light as they compare to the reports of others, almost all of whom were more intimately involved in the Gulf. Perhaps the sole advantage of my comments in contrast to those of others is that they are unbiased by hopes of climbing higher on the professional military career ladder: there just are not any higher rungs.

The War in Context

The Gulf War, as far as the medical departments were concerned, was a mobilization and logistic exercise of unprecedented proportion. The surgical plans for casualties were—mercifully—never tested. A total of 357 wounded in action (WIA) and 145 killed in action (KIA) were reported. It was almost entirely a logistic experience and, as such, undue emphasis should not be given logistics over the primary mission of military medical departments, which in a combat theater is to care for combat casualties and to prevent and treat diseases. Over-

*Professor of Surgery, Department of Surgery, University of Colorado Health Science Center and Veterans Affairs Hospital, Denver, CO 80262.

emphasizing administration and logistics at the expense of patient care in future war planning would be a serious error.

I emphasize this problem because a blind eye must not be turned to the almost universal confrontation that developed between military physicians and the Medical Service Corps. It is a sytems problem that emerged for understandable reasons, and it should be solved with a minimum of unproductive rancor or finger pointing.

The Medical Service Corps in this truncated war emerged with primary authority for hospitals in the Gulf theater for several reasons: (1) The operation never really emerged from its logistic phase. The time when the Medical Department would function in its assigned role was limited to less than 100 hours. During a logistic training exercise, those best trained in logistics can logically assume an important managerial role. (2) During the past two decades health care in America, both within and outside the military, has become so complex that its administration and management has developed into a recognized career specialty. Hospital administrators have assumed ever-increasing power in both civilian and military hospitals. (3) Most physicians are unwilling to devote the necessary time or effort to become expert in either military planning or in administration and management skills. When war plans are being formed, Medical Service Corps officers quite properly step into this breech and understandably impress their bias on Medical Department war plans.

The role reversal of clinicians taking orders from non-physicians in the Gulf did not go down well. It was a universal complaint among physicians returning from the Gulf that they resented being ordered by their Medical Service Corps superiors to fill sandbags or to burn feces during the many weeks when the administrators saw physicians standing around doing nothing, simply waiting for their time to function as clinicians.

Post-war commentaries from both medical officers and Medical Service Corps officers have predictably urged that their Corps have more authority (and rank) at the expense of the other. This problem is a challenge in management structure. The military system epitomizes the classic rigid, centralized, authoritarian, functional structure. The designated person at the top has both unquestioned responsibility and authority, and everyone answers to him.

Perhaps management of the two-phase scenario of establishing and subsequently operating a war zone hospital would be better served by some variant of a decentralized matrix system, as has been so extensively studied by industry in both this country and in Japan. I do not presume to suggest the precise form that should be adopted, but am certain that a system approach to the problem will be more productive than a confrontation between two Corps which ultimately must work together toward a common goal. The problem is, in fact, a variant of equivalent managerial conflicts seen in many civilian hospitals.

The controversy that surfaced in the Gulf War re-emphasizes the long recognized importance of training some military physicians in military planning and in administration to guide the operations of the Medical Department in a war theater.

In-Theater Medical Command Structure

The extraordinary mismatch between the size, diversity and importance of the military medical assets committed in the Gulf and the meager command structure allowed in the theater for its operation and guidance was obvious to everyone from the start. For reasons of his own, the Theater Commander choose to limit Medical Department supervision in his theater to three 06 (Colonel) officers, one from each branch of the Service, chosen from the staff that were in place in Central Command before hostilities started. The number and diversity of medical personnel and facilities in the theater made this mismatch obvious. There were three times as many hospital beds in the Gulf theater than were active in the Vietnam War at its peak. The Army alone had 13,580 beds in 44 hospital facilities in the theater, in addition to its supplementary staffing in nine host country hospitals. The Navy had 2,277 medical officers and 8,943 enlisted medical personnel in the theater on two hospital ships, three fleet hospitals and in three host nation hospitals, plus its medical personnel supporting two Marine Expeditionary Brigades. The Air Force had an equally extensive and complex presence with 4,868 medical personnel.

Medical supply preparation was equivalently extensive. For example, 30,000 units of blood were on hand when active war started.

To attempt to run such an enormous wartime medical operation, one serving more than half a million troops, with a bare bones medical staff was to court disaster. The three Colonels who made up the Theater Commander's medical staff did remarkably well but barely sufficed to keep this complicated medical system operative, even during the purely logistic build up. I believe the command structure would have disintegrated with the impact of managing the usual number of casualties expected in a classic war of this size. There would have been a hurried call for a proper Tri-Service Medical Staff to be dispatched to the theater to assume management. Each service had a standby staff ready, but an inevitable period of confusion would have resulted.

We got by with this remarkable error in staffing because we fortunately took so few casualties. It is now important to assure that a similar mistake will not be repeated. There will be a temptation to say, "It worked in the Gulf, why change?" To do so would be to misread the nature of what, in fact, was primarily a logistic operation.

Many others are better qualified than I to detail how decision makers

at the Department of Defense level should be convinced to change policy. It will be accomplished not by fighting with the Medical Service Corps but by convincing the line medical planners of the need for in-country senior medical administrative leadership, precisely as is accepted doctrine for other staff Corps. A place to start, once the three services have agreed upon a unified policy, is in the Command and Staff Colleges.

Initial Response and Call-Up Sequencing

I was impressed with the efficiency of the initial response to the unexpected call-up. Even though the Aug 2, 1991 order activated the often-rehearsed plan for the anticipated air-land battle in northern Europe against the Soviets, it functioned well. There was a change of venue, but the plan was the same.

Ready teams of active duty personnel deployed as planned. In-country facilities and prepositioned equipment were, in general, activated promptly. Reserve units quickly replaced deployed regulars in the continental United States and in Europe, and though there were some inevitable temporary complications when a new team took over, patient care did not suffer. It will be interesting to learn the effect this had on CHAMPUS spending during the transition period.

Timing of call-up and deployment of military units to an active combat theater is a complex and costly decision process. Although the ideal is to have highly qualified personnel arrive at their forward stations at the very moment their professional skills are required, such utopian timing is impossible in war. Although fixed factors such as transport time from CONUS to the theater can be programmed, the seminal consideration, which is the timing of the onset of open hostilities, is a judgement call. Who could have predicted, for example, that the anticipated November deadline would not have been the start of the shooting war?

I give high marks to whomever it was who programmed the medical departments' call-up of reserve units and the systematic deployment of active duty personnel to forward units in the Gulf or to the communication zone in Germany or England.

There were the anticipated individual complaints of a few who were pulled away from busy professional and personal lives only to find themselves sitting around idle for many weeks. The only answer to them is that this is, and probably unfortunately always will be, a part of war which must be anticipated in an operation where so many unknown factors exist.

It might be advisable for medical department planners to ask psychologists and educators how best to prepare its busy professionals who are activated in time of war to cope with inactivity. For many, it will be the only time in their productive years in which they have extra time on their hands. To use this time productively, whether for professional or general educational benefit, requires planning.

Professional advancement should make use of the educational facilities of organizations such as the American College of Surgeons and the specialty societies experienced in continuing education.

Hospital Ships

Within five days following notification, two hospital ships, each with 1,000 bed capacity, and 12 operating rooms, fully staffed and with assigned equipment and supplies, left their home ports on each coast and were on station in the Gulf by mid-September, where they provided echelon IV medical and surgical care to the US and coalition deployed combat units. As the weeks went by, other hospitals came on line ashore, but during the first critical weeks, the converted supertanker-hospitals fulfilled their mission.

It is difficult for those who served on the hospital ships to take such an olympian view of their role during those dreary months of relative inactivity. They remember the broken rudder that required the return of one of the ships to its home port for a few days, the lack of proper suture material or the interpersonal quarrels that arose when highly trained professionals accustomed to feverish work were cooped up in the confines of a ship. Each of these problems deserves to be reviewed and corrected by better future planning, but I believe the hospital ship concept should be maintained.

Some will recall the highly publicized complaints concerning the preparedness of the hospital ships which occurred during the early months of mobilization, when hard news from the theater was scarce. It would be well for those skilled in use of the media to consider and plan how such episodes should be better handled by the military in the future when high technology miniaturized recording and transmission devices will be universally available. Like it or not, the Gulf War, and every war hereafter, will be replayed in living rooms throughout the world. If the Vietnam War brought such coverage into everyone's home in prime time a few days after the fact, future wars will be played in real time. This will require sophisticated planning and sensible control policies by the military, including its medical departments.

Preparation of Reservists

The professional expertise of reservists called for active duty in this war was impressive. With the elite hospital units with whom I had contact immediately before they embarked for the Gulf, well over 90% were specialty board certified, and mean time in practice following residency was seven years. A few days before the shooting began, I was interviewed by the media and asked whether we were prepared to care for the wounded, and whether the physicians and other health professionals in the theater were well trained and could be anticipated to render first class care. Such questions arose because of the understandable concern of those who had

loved ones about to stand in harms way. I had no reservations in reassuring these concerned citizens that the care of battle casualties in the Gulf would in all likelihood be superior to that delivered in most major cities in the continental United States.

The problem with the reservists was not their qualifications but their preparation for unexpected call up. Few anticipated an August 1990 war, a belief shared by most other citizens. Neither had most of us anticipated a late June war in Korea. World War II and Vietnam came on us more gradually.

Future planning for reservists must constantly emphasize the need to be ready for instant call up, regardless of how clear the political and diplomatic skies may be. Joining the Reserves has many benefits, but it has inherent risks.

Other policy matters, such as whether married couples with children should be accepted in the Reserve, is one of the many policy matters that must be faced by planners.

Teaching Combat Casualty Management

In the quarter of a century since the end of the Vietnam War, there have been radical changes in the organization and methods of managing urban trauma in our country. Traumatology was recognized as a specialty in Western Europe several decades before it became an accepted gospel in the United States. Trauma centers, certification in pre- and post-hospital care, and career patterns in traumatology developed and became codified. This has concentrated experience in handling the injured into the hands of a relatively few. Although undoubtedly to the benefit of the injured, it means that the vast majority of both active duty military medical officers and civilian clinicians are largely inexperienced in caring for the injured. When called to a combat theater, they are largely unskilled in the complexities of trauma care. Courses sponsored both by the Army and organizations such as the Trauma Committee of the American College of Surgeons have helped alleviate this relative inexperience, but the problem persists. Surgeons in whom we should have complete confidence for performing colectomies, mastectomies or setting broken ankles are, at best, drawing on distant memories or instruction on how to manage a severely injured battle casualty.

The problem is further complicated by mistaking training in civilian trauma care with that of the experience in a combat zone. War injuries differ in the quantities of injuries received, the nature of the wounding agents and the possibilities of bacterial, chemical or radiation injury. Of even more importance in transferring expertise from a peacetime trauma center to a combat theater is the necessity for the surgeon to adapt his decisions for treatment according to his assigned role in a complicated evacuation chain. Board surgeons accustomed to having cases sent to them for definitive care in their peacetime practice do not take easily to functioning like small town general practitioners merely providing stabilization and evacuating the casualty as soon as possible to the rear. Anachronistically, the more highly trained the clinician, the more he may be expected to require such cautionary reminders when called for duty in a combat evacuation chain. Where egos are involved, logic does not always dominate.

A few decades ago, it probably made little difference in patient outcome whether a surgeon caring for a combat casualty was familiar with the latest techniques in trauma care, for recent advances in therapy were few. Such tolerance for a relearning curve is now unacceptable, and future military planners must find ways to teach otherwise competent surgeons how to care for battle casualties and how to play an efficient role in the evacuation chain.

The military is one of the largest educational institutions in the country, and its expertise should be used in preparing audiovisual and computerized programs and simulations for qualified surgeons about to function in combat casualty care in a war zone. The Army's Combat Casualty Care Course in San Antonio is the prototype for such training, but it cannot be packaged and presented elsewhere.

I was privileged to participate in a series of refresher courses on combat casualty care for medical units about to deploy, and on other occasions in Germany. Neither Capt Erwin Hirsch, USNR, nor others of us preparing for presentation of this material, could find either an organized agenda or proper audiovisual material available from any of the three services to back up our presentations. This discrepancy should be corrected, perhaps by the faculty of the Uniformed Services of the Health Sciences.

The Short Corporate Memory of Military Surgery

One of the attractive features of a career in military medicine is the probability of upward mobility during the first career years. This in turn depends on a significant fraction of career officers moving up or dropping out and going into civilian practice each year. This translates into a fast turnover of career officers who have had first-hand experience in casualty management during a previous war. It comes as a shock to those of us who have been around for a long time to realize how few active duty surgeons participated as medical officers in one of the last wars, be it Vietnam, Korea or World War II. The corporate memory of the military medical departments is short.

The problem for planners is how best to maintain this fragile corporate experience in care of the battle casualty?

Those with actual combat surgical experience should be particularly encouraged by inducements of rank and salary to remain either in the active duty forces or the reserve. These are tenets well known to military personnel and recruitment.

If these experienced combat surgeons do not choose to keep an active reserve commission, perhaps a special category of reserve should be created for them as part of our national treasure worthy of preservation.

Consultants

One way to prolong military medical corporate memory for casualty management is by using theater surgical consultants. I admit a personal bias in favor of this, having benefitted enormously from such consultants in the two wars in which I was a junior medical officer, and having served as a consultant to the Navy and Marine Corps in Vietnam. In early September 1990, I urged the Navy Surgeon General to name someone as theater surgical consultant, but complicating factors at DoD level barred admission to the theater of medical officers above an 06 rank or of civilian consultants. The Army named one of its most highly regarded senior active duty surgeons as its consultant, and I am confident that he would have performed with distinction had the system of casualty care been tested.

I suggest that medical planners take no chances of consultants being omitted in future wars when troop or medical department assets exceed an arbitrary threshold. Such a designated and funded billet might have triservice responsibilities.

Such a consultant should have had prior military service, preferably in a combat theater. He could be either an active duty officer or a reservist, but should have sufficient credibility with his colleagues that he is a recognized authority not only in trauma management but also in organizing and directing research projects. Surgical consultants function not only in shaping clinical policies, but also in serving as extra eyes and ears for the Surgeon General who appoints them and to whom they have authority to report directly. Individuals with such background usually come from either the civilian or military academic community.

Civilian consultants in uniform have played pivotal research roles in the wars of this century in projects such as management of empyema, decortication of clotted hemothorax, delayed primary closure of wounds, understanding the relationship of hypovolemia and shock, use of crystalloids in resuscitation, development of clinical use of frozen blood, defining post-injury adult respiratory distress syndrome and definition of multiple organ failure. Surely such a track record warrants making a theater consultant an automatic part of the war mobilization process.

This is not the place to detail how theater consultants should operate but I asked Dr. Edward Churchill, one of the most productive and beloved surgical consultants during World War II, the secret of his success. His succinct reply was, "Go as far forward as possible, find the most junior medical officer, and then just listen to what he has to tell you." The only change I would make for a future consultant would be to define the junior medical officer as "he or she."

Research

The research productivity that emerged from each of America's 20th century wars did not occur spontaneously. Creating the organization and environment for productive scientific and technologic research is a carefully designed subspecialty in corporate management. Corporations that assign over 10% of their cash flow to R&D do not randomly throw such precious assets at a problem and hope for something productive to emerge. It requires planning. The military medical equivalent is the creation of research units to function in a war theater. It is naive to think that the mere presence of a large number of casualties being cared for by clinicians—even if those clinicians have computers available—will produce meaningful research.

It is impossible to predict whether any significant research would have evolved from the Gulf War had the casualty care system been tested. The protocols that I reviewed emanating from Washington were largely mundane, resembling drug trials. Many reservists and academically oriented active duty clinicians had established their own well-thought-out protocols for research studies, but there were no official research teams organized or dispatched to the theater. This was, I believe, a waste of national talent, for we have a huge reservoir of able and willing research consultants. Some are within the active duty forces, but behind them in the Government stand the National Institutes of Health and their study sections, the Uniformed Services University of Health Sciences faculty, and, of course, in the civilian community such organizations as the Committee on Trauma of the American College of Surgeons and all the specialty associations focusing on trauma, burns or infection.

I believe that the military medical departments should assure activation of a few research teams as an integral part of mobilization plans. As with theater consultants, to permit such activation to be optional is to invite neglect once again. There is always competition for limited resources, and if research is considered a luxury, it will always come out second best.

Military medical planners should take a leaf from the book of the Air Force and those plotting the future roles of armored units. They commit their very survival and effectiveness on research.

Abraham Lincoln established the forerunner of the National Research Council during the US Civil War. He assembled a group of civilian and military experts to address defined scientific and engineering problems associated with the war. In its subsequent variants, the NRC committees made significant contributions through two World Wars and the Korean conflict, after which it was discontinued. I believe that both the concept and the general organization of the National Research Council should be revived. Its charge should include

maintaning updated protocols pertinent for investigation, and providing research units in the event of war.

Records

It is degrading to realize that we fought the Gulf War, in this age of communication and data management revolution, using a record system essentially unchanged from the one used 50 years ago. It is as though we had armed our infantry in the Gulf with bolt action Springfield .03s or assigned Spads to our fighter pilots.

Combat casualty medical records have a propensity for getting lost during the patient transfer through the evacuation system. Characteristically, a surgical team may receive a casualty without any accompanying record to indicate what his injuries might have been or what was performed in the way of resuscitation or operative management. As in previous wars, this occurred in the Gulf War, even though the number of casualties was so few. We are overdue in correcting this problem using existing technology.

The solution is for the three services to overhaul the entire records system. Compact disks or chips that can be attached to the patient and devices that can be placed even in forward hospital facilities for early recall are two possible solutions. Newer technology allows dictated material to be entered on the record by those in forward areas where computer entry is not feasible. A concentrated effort at DoD level is certain to evolve a better system. While we are at it, such studies should change the ID (dog) tag and the bulky medical record that each person in the military carries around to his newly assigned station. Military medical records should catch up with *fin de siecle.*

Coalition Warfare

Thirty-three nations contributed to the coalition that produced the stunning military victory in the gulf. Their medical department contributions varied widely. Evidence currently available indicates that integration of operational responsibilities was adequate and that casualties from one coalition partner would be well cared for by physicians from another, but that the informal personal exchange between coalition medical partners was sparse. One outstanding exception was the rotation of surgical teams from other countries onto the hospital ships. Another was the liaison between the US military physicians and those of the Saudi civilian and military communities. At a less formal level, I detected little of the interchange that proved so beneficial to military allied medical officers serving in previous wars. An excuse for such non-fraternization was the alleged danger of terrorists should physicians from one country venture forth to visit the hospital of another. Such a paranoid policy seemed unwise to me. I wonder if the danger was any greater than that of a resident or nurse from the west side of Manhattan taking the subway to attend a medical meeting in Brooklyn? Such a policy in the Gulf certainly interfered with creating theater unity between medical department personnel in the coaliton forces.

Since coalition warfare against a rogue nation is apparently going to be the norm for the next few decades. I suggest that medical planners consider ways to sponsor closer professional and personal exchange between coalition medical forces. In the past few decades, medicine has become internationalized. Our journals, societies and meetings transcend national boundaries. There is every reason this trend should be extended into a war theater among allies. Specific examples might be establishing a Theater Medical or Surgical Society. Specialty groups such as orthopedists, neurosurgeons or infectious disease experts should be encouraged to form their own meetings. The participants predictably gather again throughout their entire professional lives after the war. Some historically important medical friendships have been developed in such experiences shared by colleagues from other nations during joint service during a war.

CONCLUSIONS

The Gulf War was obviously an outstanding military success for the coalition forces. We won big, but let us not forget that the combat casualty management system was fortunately never tested. Winning big invites self-satisfaction and sets the winner up for unpleasant surprises thereafter if overlooked weaknesses in the system are not recognized or corrected.

The random and very personal observations in this paper are a review of some of the areas that I believe should be addressed in future medical department planning so that our performance can be even better next time. For each problem cited, a suggested avenue for solution is suggested.

I hope that these suggestions will be taken in the spirit in which they were made, and that I will be given another seat mid-field, close behind the bench, again the next time around. ●