1990

TRAUMA: Responsibility, resources, and responsiveness

by Norman M. Rich, MD, FACS, COL, MC, USA(Ret), Bethesda, MD

Recent, dramatic world events have evoked dismay, despair, elation, frustration, surprise, and suspicion. Many future events remain tenuous and unpredictable. Nevertheless, while we may solve many of the problems related to cancer and cardiovascular disease, we can safely predict that there will be continuing universal challenges with regard to trauma.

At a time when there is increasing interdependence among the nations of the world, individual acts of defiance and individual decisions to escalate hostilities have been impressive and even shocking. In our technological age in which scientific advancement has been unparalleled and the two "super powers" have recognized their mutual ability to destroy a great part of the world, it is ironic that biological, chemical, and conventional warfare are current threats. Can any of us remember a single day in our lifetime when there was not armed conflict somewhere in the world? With the escalation of terrorists' acts and urban "warfare" in many cities,[1] our collective failure to maintain peaceful existence is obvious.

The importance of diplomatic success in resolving differences of opinion is receiving additional interest and support. The collective efforts

of many nations that set aside remaining differences of opinion to condemn a brutal act of aggression provides hope for the future. We have more than enough problems with economic deficits, increasing dependence on drugs and alcohol, pollution and related threats to ecology, natural disasters, ethnic and religious differences, and challenges in space. Our time, effort, and limited resources could be expended more profitably than in armed conflict, whether on the battlefield or in urban strife.

The Scudder legacy

Dr. Charles Locke Scudder, a founding member of the American College of Surgeons, successfully proposed to the Regents that a Committee on the Treatment of Fractures be established. This group subsequently became the Committee on Trauma, the oldest committee of our College. An interesting and informative historical overview, "The Committee on Trauma: Its men and its mission," was documented by Dr. George W. Stephenson in 1979.[2] Dr. Scudder was the committee's first chairman, serving from May 1922 through April 1933, and he gave the first Oration on Fractures in 1929.[3] Named the Oration on Trauma between 1952 and 1962, the Scudder Oration on Trauma has been given annually since 1963. Reading past orations provides an outstanding review of our efforts and continuing challenges in trauma, as well as a reflection on our successes and failures.[4-30]

In this article, I hope to augment and complement significant contributions from previous orators. I would like to acknowledge the valuable support that I received from Dr. Frank Spencer, Major General Carl Hughes, and Brigadier General Thomas Whelan.[31]

I am compelled to address pressing global issues, which are a high priority at this time. In recognizing that the majority of my comments are directed to Fellows in the United States, I hope that Canadian Fellows as well as Fellows and colleagues from all over the world will find at least some of my remarks of interest and of value.

Dr. G. Thomas Shires in 1972 emphasized that the care of the injured was the surgeon's responsibility, and that responsibility remains today.[13] Dr. Jack Wickstrom expanded on the surgeon's responsibility to include education in trauma in his 1974 Scudder Oration.[15] The following year, Dr. Sawnie Gaston emphasized the role of leadership.[16] In 1989, Dr. Donald Trunkey provided us with additional challenges in "What's wrong with trauma care?"[30] War and combat casualty management have been referred to repeatedly in the Scudder Orations. Dr. J. D. "Deke" Farrington (1973) titled his oration, "The seven years' war," referring to a seven year effort against death and disability and emphasizing that important battles had been won.[14] Dr. Francis Moore spoke about "War and peace" in 1980.[21] I will attempt to provide a 10-year follow-up on some of the aspects of Dr. Moore's presentation, while outlining suggestions for future developments in managing injured patients, both in civilian and military situations. Dr. Moore said that:

> One would hope that the next two decades and the century to follow will somehow witness a diminution in national conflict as a cause of human injury and suffering. However, to rely on any such hope would be an illusion of false expectations hardly fostered by the headlines of today and everyday.[21]

We have not done well in the first of the two decades mentioned! With the current world crisis, it is obvious that once again the potential exists for massive destruction and loss of life on the battlefield. In the absence of war we all recognize that continuing urban warfare is taxing our resources to and beyond our ability to respond appropriately.

Responsibility

Management of injured patients is the surgeon's responsibility. It is obvious with the expanding health care delivery team of today that many others share this responsibility; nevertheless, the surgeon maintains the leadership role. There are numerous citations emphasizing the surgeon's leadership responsibility over the past centuries in caring for the wounded. I have elected to use the quotation attributed to the Hippocratic writings about military medicine:

> Fights between citizens and their enemies are rare, but frequent and almost daily between mercenary soldiers; he who would become a surgeon, therefore, should join an army and follow it.[32]

Many individuals have stressed that the only ones who benefit from war are young surgeons. The names of Paré, Larrey, Guthrie, Makins, and Cushing are among the hundreds who made valuable contributions to the management of the injured during warfare. Advancements in surgical treatment of the injured on the battlefield are legion, and identified in a myriad of documents and reports.

Responsibility for surgeons involves the complete educational process, including teaching. Obviously, prevention of injury would be ideal, whether we prevent the potential automobile accident or the potential gunshot wound. Ramifications of the complex consideration of prevention go far beyond the scope of this article; however, our responsibility as surgeons is to ensure that we have and maintain appropriate education in the management of injured patients, and that we provide proper education for those surgeons who follow us. Professor Andres Santas of Buenos Aires, an honorary member of the College who contributed significantly to the International Relations Committee, stressed that those of us who are more fortunate and who have more resources have the responsibility to assist those who are less fortunate.[33]

Responsibility is being met at this moment by surgeons who have volunteered to provide for the injured in the Persian Gulf area. There are volunteers who continue to serve as career military surgeons and there are volunteers who have remained in the reserve components. Within recent months, many surgeons have left their own university responsibilities and their private patient care responsibilities to serve in uniform on active duty. As a result, many surgeons are sharing in the responsibility for care of combat casualties.

A Reserve Colonel, W. Grimes Byerly, described in detail the sharing of responsibility between his reserve hospital, with university support from Duke and East Carolina, and Womack Army Hospital.[34] Limited resources have been shared, and this effort has provided many dividends during the gulf crisis. Among our many colleagues who have rallied to provide support are Captain Erwin Hirsch from Boston University, now at Charleston Naval Hospital; Colonel Walter Pories from East Carolina University, now at Womack Army Hospital; and Captains James Boland from West Virginia University and George Hill from the Medical University of New Jersey, now at National Naval Medical Center. Active duty military surgeons from essentially all of the military hospitals in the continental United States are in the Persian Gulf at this time.

Commander Mims Gage Ochsner, Medical Corps, United States Navy, assigned to the Uniformed Services University of the Health Sciences, wrote from the USNS *Comfort* in the Persian Gulf on 12 September 1990 the following:

> Overall, we're well organized with multiple well structured contingency responses. The difficulty arises from the paradox of hoping that we never are called upon to implement these plans and the almost equally morose thought of sitting out here doing absolutely nothing for six months.[35]

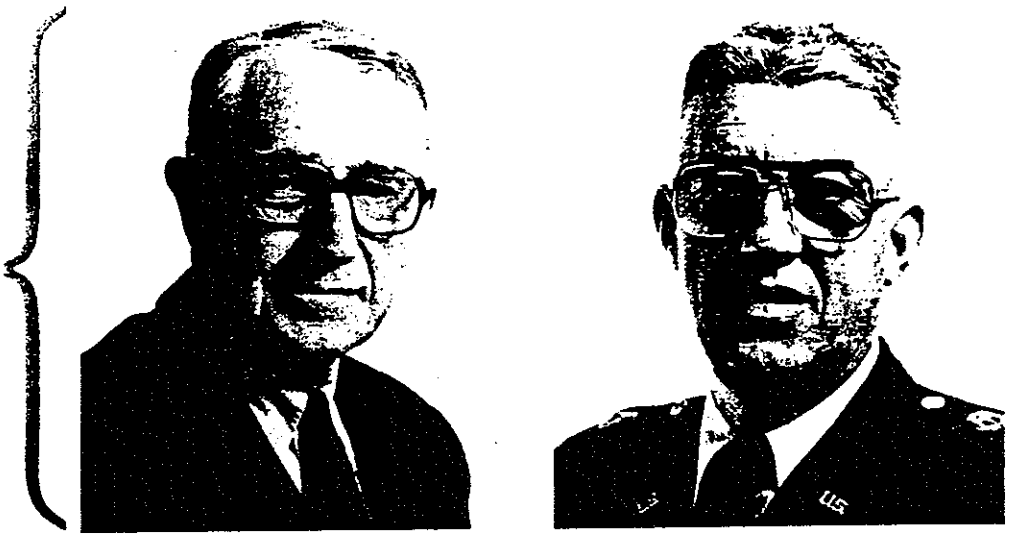
The challenge of boredom can be particularly disturbing to those who are accustomed to the demand of caring for the injured. Do all that you can to correspond and support those who continue to serve us in the Persian Gulf!

Resources

Individuals provide a critical resource in the management of injured patients. I would like to apologize to all of those individuals not named here who deserve recognition; individuals cited in this article are for emphasis, and not intended to be exclusive in any way. All surgeons cited are ACS Fellows.

Dr. Gerald Strauch, Director of the ACS Trauma Department, has continued the outstanding traditions of Drs. Oscar Hampton and Alexander Hering. The possibility of publishing a compilation of the Scudder Orations on Trauma is under consideration. As one, and possibly the only, Fellow to have read all of these orations, I can attest to this material as representing an outstanding trauma care resource.

The Committee on Trauma is a unique resource that deserves particular mention and emphasis. Individual talents unified through the Committee on Trauma provide important and historical recognition of those physicians who worked to improve trauma care. The legacy that Dr. Scudder provided all of us through the Committee on Trauma is one of the most important



Left: Dr. Francis Moore.
Right: Dr. Basil A. Pruitt, Jr.

resources that we have in our efforts to provide the best care possible for those who are injured. Complemented and augmented by the American Association for the Surgery of Trauma, the American Trauma Society, and many other organizations, we have developed a solid foundation upon which we can build and expand our resources. The College's Advanced Trauma Life Support (ATLS) courses and related activities have been particularly successful. Colonel James Salander, MC, USA, discussed the value of ATLS for the military.[36] I make particular mention of the military at this point because the Committee on Trauma and the College in general has been highly supportive of the military, advocating excellence through military surgical care. The Regents established Military Region XIII in 1980. Military surgeons as Fellows have been a resource that has been responsible and responsive to the College in turn.

Colonel Basil A. Pruitt, Jr., MC, USA, the 1984 Scudder Orator, is an outstanding role model. In addition to Colonel Pruitt's individual academic achievements, he has added to the expanding capabilities of the Army Burn Center in San Antonio, TX, where other surgical leaders including Drs. Curtis Artz and John Moncreif also contributed greatly. The Army Burn Center has been recognized worldwide for many years for its valuable contributions to burn patients. The Army Burn Center has been a model for many other burn centers in the United States and in many other countries.

In recognizing our military surgical heritage and in identifying that Baron Dominique Larrey, surgeon to Napoleon, contributed as much as anyone to the management of battlefield casualties, the first Baron Dominique Larrey Award for Military Surgical Excellence (awarded under the auspices of the USU Surgical Associates supporting the department of surgery at the F. Edward Hebert School of Medicine, Uniformed Services University of the Health Sciences) was presented to Colonel Basil A. Pruitt, Medical Corps, United States Army, in 1985. Colonel Pruitt has achieved the highest academic credibility both nationally and internationally. He has been an exemplary teacher to many. His personal efforts have been truly international, representing all of us in a commendable manner throughout the world, and ensuring expanded technology that will globally improve the management of patients.

Rear Admiral Ben Eiseman, MC, USNR (Ret), is another individual who needs no introduction, and who is cited for his outstanding contribu-

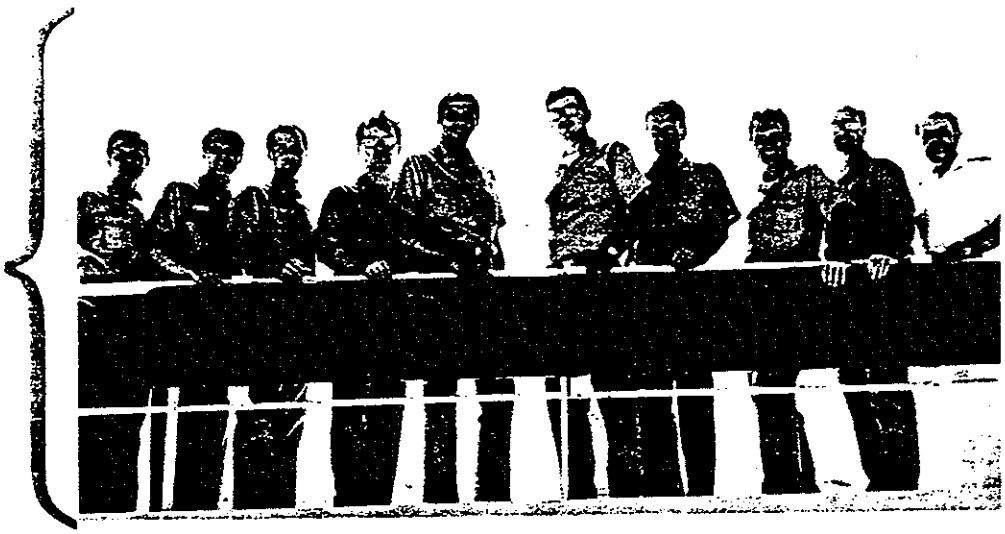
tions in all areas of surgery. Dr. Eiseman's vast experience and expertise is revealed in his article, "Military surgeons as internationalists."[37] According to Dr. Eiseman, "Military medicine can be considered a shared world resource and what could better serve the interest of its brotherhood than an opportunity to exchange ideas and knowledge in a common society."

The Uniformed Services University of the Health Sciences (USUHS) is a national resource. Established by Congress in 1972 under the Department of Defense to educate men and women for medical officer careers in the uniformed services of the army, air force, navy, and public health service, it is fully accredited as the only military medical school in the United States. The university's F. Edward Hebert School of Medicine was named in honor of the late congressman from Louisiana who sponsored the legislation creating the university. USUHS is governed by a civilian board of regents whose nine members are appointed by the President of the United States and confirmed by the Senate. The surgeons general of the four uniformed services are ex-officio members.

Since Dr. Moore's oration in 1980[21] there have been 11 graduations with 1,354 uniformed physicians now serving their country worldwide, including many in the Persian Gulf area. As Dr. Moore mentioned, the USUHS effort complements that of the health professional scholarship program that still supplies the majority of military physicians. While USUHS students are exposed to the traditional civilian medical school curriculum, there are also special courses of direct military medical relevance, including operational medicine in the field, applied military physiology, and diagnostic parasitology. Many potential challenges in the world not particularly common in the United States are emphasized. A graduate program in the basic medical sciences has augmented the school of medicine at USUHS. The emphasis on academic excellence throughout USUHS requires the infusion of the scientific rigor of graduate programs into the medical school milieu. The Military Medical Education Institute (MMEI), under the leadership of dean David Trump, was created within USUHS in October 1988 to coordinate all postgraduate combat casualty care training for the medical departments of the uniformed services of the army, air force, and navy, both active duty and reserve components. Included among a variety of courses is the original Combat Casualty Care Course, and this is coordinated with the support of the ACS through the Advanced Trauma Life Support system.

The department of surgery at USUHS has been dedicated to improving the academic credibility of military surgery at the same time that the best possible surgical care is provided to the extended military family. Trauma, as a critical aspect of the overall mission, is of particular concern and emphasis within the department of surgery. A division for the management of injured patients was established and Dr. Howard Champion, professor of surgery, has been highly supportive in coordinating these activities with his primary responsibilities at the Med Star Trauma Unit of the Washington Hospital Center in Washington, DC. Among many others who have provided similar valuable support are Drs. Michael DeBakey, Kenneth Mattox, and Norman McSwain. This is an important area where civilian and military requirements can be supported for mutual advantage. While additional talented manpower can assist in urban trauma challenges where there are acute manpower shortages, young military surgeons can also receive additional experience there that could be particularly important if deployment to a combat zone occurs.

Although USUHS has fulfilled its mission to date far beyond our original projections, the potential of this important resource and treasure can and should be developed further to provide support for our nation. One such consideration is developing an Institute for Disaster Planning within USUHS to provide a research and coordinating capability to augment and complement the numerous national, state, county, city, and private organizations that are involved. The importance of peacetime military medical involvement during natural disasters has been recognized. This concept has been championed for many years by Dr. Martin Silverstein, who is a world expert on the medical response to national disasters. Militarily unique curricula have been developed at USUHS emphasizing the special role for military physicians and surgeons in supporting a combat force. Military action in Grenada in 1983 and Pan-



Dr. M. Gage Ochsner and colleagues on the USNS *Comfort*, one of the two hospital ships deployed to the Persian Gulf.

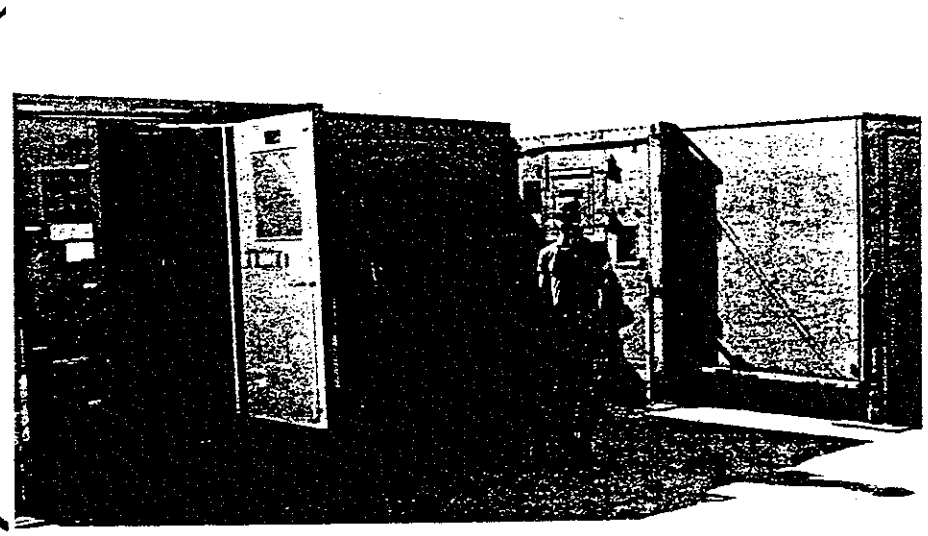
ama in 1989 emphasized the requirements for a rapidly deployable mobile force requiring military surgeons.

USUHS has an important international mission representing all of us and interacting with representatives from many other nations. An exchange of international scholars has occurred with many nations. To assist with the important international liaison, Lieutenant Colonel Charles G. Rob (formerly of the Royal Army Medical Corps), Colonel J. Leonel Villavicencio (formerly of the Mexican Army Medical Corps), and General Daniel Rignault (formerly of the French Army Medical Corps) serve as professors at USUHS. Military medical students of other nations participate in field exercises with our students. Our students and faculty participate in exchanges with other military medical activities. A recent example of international exchange was participation in the Telemedical Bridge with our Russian colleagues following the earthquake in Armenia.

How else might we utilize our relatively new national resource, USUHS? Our visiting board to the department of surgery (with the valuable support of Drs. Donald Custis, Michael DeBakey, Leonard Heaton, Carleton Mathewson, Francis Moore, Harris Shumacker, and David Sabiston) has analyzed, evaluated, and projected options. Many other surgeons continue to contribute "additional duty" after meeting their other primary and secondary responsibilities.

Responsiveness

Whether or not we as individuals, or working collaboratively, will be appropriately responsive will be determined in the future. Yet, each and every one, in his or her own way, placing appropriate emphasis where special talent exists, can make a difference! While being calculating and cautious in recognizing the magnitude of the challenges ahead, we must be enthusiastic and optimistic about our own ability to respond as individuals and as a team. To list the accomplishments of the past 100 years would and has filled volumes beyond comprehension. Nevertheless, we must appreciate that our potential is essentially unlimited, assuming that we can recognize and establish appropriate priorities while making changes when indicated. We can be justifiably proud of the accomplishments of our Committee on Trauma and the many outstanding individuals who have added to Dr. Scudder's legacy. Any success achieved to date, however, should serve only as a stimulus to solve remaining challenges.



Maj. James Malcolm, MC, USA (USUHS Class of 1984), standing beside hospital containers being assembled in Saudi Arabia in late 1990. Dr. Malcolm and his colleagues in the 85th Evacuation Hospital, which was also operational in Vietnam, will remain in Saudi Arabia for an undetermined number of months to provide medical support as required.

Addendum

As of March 1991, it appears that we have avoided sustaining large numbers of casualties in the Persian Gulf conflict. I doubt that any military operation ever had more experienced and talented medical support. Fellows of the American College of Surgeons can share in the pride of the numerous contributions: Drs. Erwin Hirsch, Norman McSwain, and Donald Trunkey, who have served the Committee on Trauma, served directly in Operation Desert Storm. It was most reassuring to witness the valuable augmentation by the reservists to the active duty military. We must not forget our international colleagues from the Allied Coalition, who have contributed enormously. For example, Colonel Ian Haywood of the Royal Army Medical Corps of the United Kingdom was another experienced colleague in the Arabian Peninsula.

Compassion and concern remain for our Iraqi friends, with the hope that we will achieve a more stable peace in the Middle East and that the World of Nations will prevail. With somewhat more than 100 USUHS graduates and/or faculty serving in Operation Desert Shield/Desert Storm we can give a collective sigh of relief, and hope for their rapid and safe return trip home. We were particularly relieved to learn that Major Rhonda Cornum, MC, USA, a 1986 graduate from USUHS, serving as a flight surgeon, was repatriated after having been a prisoner of war. Although injured, she was one of three survivors in a downed helicopter on a rescue mission deep inside Iraq. We can all look forward to the day when she completes her training and becomes a valuable contributing member to the American College of Surgeons.

With the potential for war (possibly exploding beyond dimensions perceived) behind us, we must concentrate on the remaining diplomatic, financial, medical, and social challenges.

The opinions or assertions contained herein are the private views of the author and are not to be construed as official or as reflecting the views of the Department of the Army or the Department of Defense.

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