

FIRST TRAUMA VERIFICATION REVIEW COMMITTEE SITE VISIT OUTSIDE THE U.S.: LANDSTUHL REGIONAL MEDICAL CENTER, GERMANY

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The Verification/Consultation Program of the American College of Surgeons Committee on Trauma (COT), commonly known as the Verification Review Committee (VRC), was developed to assist in improving the care of the injured patient by on-site consultation and verification of trauma center performance as outlined in COT's *Resources for the Optimal Care of the Injured Patient, 2006*. Through on-site visits that extend over a one- to two-day period, site reviewers of the Verification/Consultation Program review the structure and resources of the trauma program, interview hospital personnel, tour the facilities, and review selected medical records and performance improvement materials in order to evaluate the quality of care provided.

Requirements that have been established by the COT must be met in order for a hospital to be verified as a certain level of trauma center. Areas in need of improvement are identified, as are those areas where special commendations are warranted. During the past year, more than 130 site visits have been conducted and many states use these verification site visits to decide which hospitals should be officially designated as trauma centers. All previous VRC visits have been limited to the U.S. However, this year, the VRC conducted its first official site visit outside of the U.S. at the request of the U.S. Army.

Landstuhl Regional Medical Center (LRMC) in Landstuhl, Germany, is a permanent U.S. military installation and represents the largest American military hospital outside the U.S. The medical center is under the command of the U.S. Army Europe, but it is currently staffed with active and reserve military personnel from the Army, Navy,

and Air Force. The facility was established to provide care for American military personnel and their families throughout the European Theater.

However, since 2003, LRMC has served as the primary evacuation site for all combat casualties wounded or experiencing nonbattle injuries and/or medical disease in Afghanistan and Iraq. Over the past year, more than 2,000 injured patients have been admitted to LRMC. Although the initial evaluation and operative care of these trauma patients occurs at forward echelons of military medical care within Afghanistan and Iraq, most of the wounded are evacuated to LRMC within 36 to 48 hours of the time of injury. More than 600 wounded service members required admission to the intensive care unit (ICU) at LRMC in 2006. The wounds experienced by those involved in the current conflict are often extreme, with a combination of blast, burn, and penetrating mechanisms. While at LRMC, the injured undergo additional surgeries as needed with special attention to wound care, nutrition needs, and infection control. Unique to this center is the additional task of preparing these soldiers, sailors, airmen, and marines, including those in the ICU, for a prompt transfer back to the military medical facilities in the continental U.S. (Walter Reed Medical Center, National Naval Medical Center in Bethesda, MD, or the Brooke Army Medical Center in San Antonio, TX).

LRMC was reviewed June 13–14 by the COT VRC, with a two day on-site visit by the following reviewers: Dr. Mitchell, current Chair of the COT VRC; Dr. Knudson, current Vice-Chair of the COT; Donald D. Trunkey, MD, FACS, former COT Chair; and Jorie Klein, RN, Trauma Program Manager (see photo, this page). The hospital was seeking verification as a level II trauma center.



The Landstuhl site visit. Left to right, front row: Ms. Martin, Dr. Knudson, and Ms. Klein. Back row: Mike Glenn, RN, Trauma Informatics Director, LRMC; Dr. Trunkey; Dr. Mitchell; and Dr. Dorlac.

Overall, the review team was extremely impressed with the care being rendered at LRMC and found that all requirements of a level II trauma center were achieved. A level II trauma center provides care for essentially all types of injured patients. Because of the outstanding care that was witnessed, it was the recommendation of the COT for LRMC to pursue a level I verification. The additional requirements needed to achieve this designation would be to formalize the educational curriculum for surgical residents and the research program. In fact, some of the clinical research efforts by LRMC have already advanced the care of severely injured patients and have been implemented in trauma centers in the U.S.

In addition to their excellent patient care, several other special strengths were noted, including the following:

- The commitment to trauma care by the hos-



Dr. Flaherty



Dr. Johannigman (right), with Col. John Holcomb, MD, FACS, during their recent deployment at the Air Force Theater Hospital in Balad, Iraq.

pital commander, Col. W. Bryan Gamble, MD

- The leadership of the Director of the Trauma Program (Col. Stephen F. Flaherty, MD, FACS; see photo, this page), the Trauma Medical Director (Col. Warren C. Dorlac, MD, FACS), the Trauma Program Nurse Director (Kathleen D. Martin, MSN, RN), and the ICU Medical Directors (Lt. Col. Gina Dorlac, MD, and Maj. Valerie Pruitt, MD).

- The collaboration among the four military services

- The Joint Patient Tracking Application (JPTA), an outstanding Web-based system for tracking and communicating clinical information between physicians at the various echelons of care, from the combat zones in Iraq and

Afghanistan through the medical treatment facilities in the U.S.

- The Joint Theater Trauma Registry, a customized database that is initiated in the combat hospitals “in theater” at the first point of care.

- The interdisciplinary ICU team, including surgeons, pulmonologists, gastroenterologists, infectious disease specialists, nurses, and social workers

- The dedication of surgical specialists (particularly orthopaedic surgeons and neurosurgeons) to trauma care in this unique environment

- The commitment of the operating room staff to being available whenever the injured arrived from the combat zones

In addition to touring the facilities, interacting with hospital personnel, and reviewing medical records, the site visitors had the opportunity to participate in the “VTC,” a unique trauma video-teleconference held weekly that includes simultaneous audio-feed from treatment facilities in Iraq and Afghanistan and audio-video input from LRMC, Walter Reed Medical Center, National Naval Medical Center at Bethesda, Brooke Army Medical Center, and Wilford Hall Air Force Medical Center. The conference begins with a presentation by the physicians who first encountered the injured patient and continues with input from physicians and care providers along the entire spectrum of care. The surgical care provided and any problems identified are discussed openly, thus allowing opportunities to share experience as well as concurrent performance review and loop closure.

Another highlight of this trip was the opportunity to directly observe a Critical Care Air Transport Team (CCATT) mission. The CCATT program was developed by the Air Force to provide continuous en-route care for the injured soldiers. CCATT teams are responsible for the movement of the critically injured soldier from the far-forward echelons of care (combat support hospitals or forward surgical facility in the theater of operation) to a more established, higher level of care (such as LRMC). Each CCATT team is composed of three members: a critical care physician, a critical care qualified nurse, and a respiratory therapist. Each CCATT team is designed to be capable of providing care for three critically injured patients (or six less severely injured) for up to 72 hours. The CCATT equipment set is man-portable, battery operated, and designed to function in austere settings. The equipment set includes a small ventilator, a cardiac/physiologic monitor, intravenous infusion pumps, and laboratory testing devices. These teams are usually joined by other air evacuation teams that care for less-critical patients and together patients and equipment are loaded on large Air Force planes fully equipped for the flights of eight to 12 hours’ duration. During flight, medications and nutrition are administered without interruption and critical cardiopulmonary changes addressed as needed. Despite the complexity of this mission, it appeared to be a seamless process from loading patients in the LRMC critical care

unit onto the transport buses, through the transfer to the plane at the Ramstein Air Force Base, to the arrival at Andrews Air Base some 12 hours later, throughout which patient safety and comfort were of highest priority for all involved.

This recent verification of LRMC as a trauma center is of importance for many reasons. First, it recognizes the enormous contributions made by all who have provided care to these wounded soldiers. Second, families may be assured that their sons, daughters, husbands, and wives have received the highest level of trauma care that our nation can provide, as verified by the ACS COT and the VRC. This verification is all the more impressive given the significant challenges of combat conditions, austere environments, and care and transport across thousands of miles and many countries. In addition, this collaborative effort between military and civilian trauma care professionals coordinated by the College reflects the growing recognition of how important it is to work together to improve trauma care worldwide.

But most importantly, the visit to LRMC pays tribute to our soldiers, airmen, sailors, and marines who are willing to give so much of themselves and who deserve the very best in return. The imprimatur of the LRMC includes the words “Selfless Service”—and this, indeed, was the case. □

Dr. Knudson is professor of surgery at the University of California, San Francisco, and Vice-Chair of the ACS COT.

Dr. Mitchell is medical director, trauma and surgical critical care, St. John Medical Center, Tulsa, OK, and Chair of the ACS COT Verification Review Committee.

Dr. Johannigman is a colonel in the U.S. Air Force Reserve, director of the division of trauma/critical care at the University of Cincinnati, OH, and Chief of Region V of the ACS COT.