

## ***THE ARMY'S ULTIMATE LIFESAVING FORCE ...***



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**T**he purpose of this article is to define the Forward Surgical Team (FST), delineate its mission, and explain how to use it to optimize combat casualty care for the supported maneuver unit. The intent is to give brigade, forward support battalion, and forward support medical company commanders an operational knowledge of the Army Forward Surgical Team.

Some basic definitions of hospitals and personnel are necessary. Any hospital, military or civilian, is set up to take care of injured personnel (i.e. car accident, gunshot wound, fragmentation wound) with standing operating procedures (SOPs) that are common to all hospitals. Casualties, or patients, first filter through the emergency room (ER). The emergency medicine doctor (EMD) does critical lifesaving procedures such as airway tubes, chest tubes, intravenous lines, blood transfusions, etc. These emergency room procedures save about 90 percent of the injured patients that enter the hospital. The remaining 10 percent require more advanced treatment and must move to the operating room (OR)

where the operating surgeon opens one or more major body cavities (MBC – defined as the head, chest, abdomen, or leg) in order to control internal bleeding and save the casualty's life. After the OR, the casualty is then transported to the post operative holding area for recovery and eventual discharge from the hospital. The OR is the ultimate lifesaving station. The OR is capable of everything the ER does with the added capability of opening an MBC for the control of bleeding and saving of life or limb.

Some critical definitions of the different doctors' capabilities within the ER and the OR should be defined. The emergency medicine doctor (EMD) works primarily in the ER. The EMD is capable of handling the entire spectrum of illnesses in all patient categories and age groups, short of surgically opening an MBC. Again, the EMD can save about 90 percent of casualties who come to the hospital. The operating surgeon is capable of doing everything the EMD does with the added capability of being able to open up an MBC in order to save lives.

The title "surgeon" in the Department of Defense should generally be interpreted as

meaning "doctor" or "physician." The title, 'Battalion Surgeon,' for example, does not imply that the individual holding that title is a qualified operating surgeon. Put another way, there are two types of 'surgeons' in the Army. There is a unit surgeon and an operating surgeon. Examples of unit surgeons are battalion surgeons, brigade surgeons, division surgeons, flight surgeons, and so forth. A unit 'surgeon' functions as an EMD. A unit surgeon/EMD is capable of handling that 90 percent of serious trauma casualties in the emergency room with very important and significant lifesaving maneuvers short of opening an MBC. An operating surgeon, on the other hand, is capable of everything the EMD does, however; he has spent an additional four to five years of intense, on-the-job training in a hospital, to learn the techniques and skills necessary to open an MBC in order to save a life. This training is called Surgical Residency training and correlates to Ranger School training extended over five years. Examples of operating surgeons are orthopedic surgeons, trauma surgeons

and cardiothoracic surgeons. The distinction between the ER and the OR, as well as the distinction between a unit 'surgeon' and an operating surgeon, are absolutely key to an understanding what an FST is and how to employ one.

A battalion aid station (BAS) and a forward support medical company (FSMC) all function just like a hospital ER. Advanced trauma life support (ATLS), which means all emergency trauma treatment short of opening an MBC, is the hallmark of the civilian ER, as well as the BAS and FSMC. Similarly, the unit surgeons that serve at BAS and FSMC levels function as highly-skilled EMDs with expertise in military injuries. The BAS is normally located at the battalion casualty collection point (CCP), and the FSMC is located in the brigade CCP, which is in the brigade support area (BSA).

From the 1950s through the 1980s, expert care by combat medics and rapid medical evacuation by air was counted upon to treat that 10 percent of casualties who could not be saved with 'emergency room' – that is, BAS or FSMC treatment alone. During that time, the operating room was only available at the division rear area from combat support hospitals (CSHs) and

mobile army surgical hospitals (MASHs). The division rear area was the farthest forward the MASH or the CSH could be deployed. Because of their large logistical footprint, even the smallest of these hospitals, the MASH, was not able to insert into the opening stages of a combat operation until D+4 or D+5. In the 1990s, with the Army deploying to remote areas around the world, the need for surgical capability with a much smaller logistical footprint became apparent. The Army fielded the modern FST in the early 1990s. This effectively pushed the operating room capability forward from the division rear to the brigade CCP and solved the treatment plan for that critically wounded 10 percent who could not survive transport to the CSH or MASH. The Forward Surgical Team, although limited to lifesaving surgery only, could be easily inserted with the initial assault force and deployed forward to the BSA.

### FST Mission, Concept, and Utilization

The Forward Surgical Team's mission is to deploy lifesaving operating room capability forward to the BSA for a limited period of time in order to save the lives of

those whose injuries are so severe that they would not survive transport to the rear area hospital. Once the combat offensive is over, the FST should then be moved back to a busy, high-volume hospital where surgeries are being performed, i.e., where the surgical skills it possesses are most needed. The FST is a surgical team, not a hospital, and is intended for offensive, not stability or peacekeeping operations.

Today's Army FST consists of 10 officers and 10 enlisted personnel. The doctors are all operating surgeons as opposed to unit surgeons. There are three trauma surgeons and one orthopedic surgeon assigned. The FST also has two nurse anesthetists, three additional nurses, one operations officer, as well as enlisted operating room technicians, practical nurses, and combat medics. An FST is not a hospital – a hospital must have depth in personnel and equipment in order to function independently. For example, it has to have X-ray, lab, medical maintenance and repair capability, power generation, food, water, and sterilization. To stay light and deployable, the FST lacks all of the above and contains only the personnel and equipment necessary to perform 30 lifesaving operations in 72 hours in support



*Members of an Army Forward Surgical Team perform two surgeries simultaneously in a Deployable Rapid Assembly Shelter (DRASH) tent. The typical Forward Surgical Team has three DRASH tents: an Advanced Trauma Life Support or pre-operative tent, an operating room tent and a post operative holding tent.*

Courtesy photo

of a major offensive in a BSA. The FST is completely reliant on the FSMC and supported brigade for the full spectrum of logistical support.

Surgical operations consume a staggering amount of equipment, supplies, and human energy. After the initial period of 72 hours of continuous surgical operations, the FST is essentially non-mission capable due to exhausted equipment, supplies, and personnel. The team then needs to be reconstituted. The best way to do this is to physically move the team personnel and equipment back to the division rear combat support hospital where they can repack and re-sterilize their equipment, fix any broken equipment, and prepare to be repositioned in the BSA near the next major offensive where a high number of casualties may be encountered.

### **Battlefield Placement**

Movement and placement of the FST on the battlefield is obviously METT-T driven. Just as crew served weapons are placed where they will do the most good, the commander needs to place operating surgeons where they will do the most good as well. Most often, that is with the FSMC, at the most defensible logistics release point (i.e., the BSA) where there is immediate access to rapid evacuation to the rear. If casualties are being evacuated directly to the higher echelon hospital (CSH or MASH), the FST needs to be repositioned and collocated with that CSH or MASH. Except for echeloned movement, the Forward Surgical Team should never be split or employed as a Battalion Aid Station. It cannot be stated enough that leaving the FST in the BSA for prolonged periods with no incoming casualties is a waste of valuable Army resources. Operating surgeons, who have spent many years acquiring their valuable skills (and in which the Army has invested millions of dollars), should be positioned where the Army can maximally exploit those skills. Those skills, like those of the aviator, are highly perishable, and can only be sustained in a busy, high-volume hospital. That place could be the D-rear combat support hospital, or back in the home station hospital where they can perform surgery on Army dependents, Soldiers, and retirees with real-world peace time injuries and diseases.

The FST has no patient hold capabilities, and, by doctrine, must evacuate the patients it operates on within six to eight hours. As such, it should be positioned near evacuation assets, preferably dedicated fixed and/or rotary wing air ambulances. 'Sick call', per se, is not a function of the FST. The FST can assist with sick call if the unit surgeons are overwhelmed, however; assigning an FST to perform sick call as a primary mission is another serious pitfall in FST employment, which results in misuse of valuable Army resources.

Not every maneuver brigade requires an attached Forward Surgical Team. If a CSH, MASH, or level 3 hospital is within an hour's flight or ground evacuation time to the brigade's area of responsibility, then that brigade does not require an attached FST.

The Forward Surgical Team is a highly valuable asset to the



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*At a hospital in Kirkuk, Iraq, Major Ben Starnes, 250th Forward Surgical Team, and Iraqi Doctor Nadim Ibrahim scrub up and talk strategy before beginning a procedure to remove a tumor from the lung of an Iraqi man December 9.*

maneuver brigade combat team, when employed correctly and in accordance to Army doctrine. Not only are lives saved, but combat power is ultimately preserved through the use of skilled surgical assets for severely wounded casualties who would not otherwise survive evacuation to a division level MASH or CSH. Equally important is the correct positioning of the FST after combat operations are completed, so that the team can be ready and its unique skills preserved for the next combat mission.

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