U.S. Army-Baylor University Graduate Program in Health Care Administration

The Implementation of Reach Logistics in Support of the Department of the Army's Transformation Policy Including A Review of Forward Surgical Team Unit Assemblage Management

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in Partial Fulfillment of the Requirements for
a Master's Degree in Health Care Administration

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Abstract

This study analyzed the variables that impact the capability of the Army's medical equipment sets to support the real-world treatment requirements of forward surgical teams. A comparison of the two existing medical component listings for these sets, i.e. unit assemblage 0267 (published in 1996) and unit assemblage 2267 (published in 2002), provided a detailed listing of differences between these two sets and highlighted the need for adapting medical sets to changing clinical requirements. In addition, first-hand observation of the Army's trauma training program in Miami, Florida, provided data on medical items consumed in a civilian, real-world trauma treatment facility. Comparison of this data against the established Army listings identified discrepancies between published listings and real-world requirements. The answer to the research question proposed was that current medical equipment sets for forward surgical teams do not fully support the real-world treatment requirements of the Army's forward surgical teams.

The Implementation of Reach Logistics in Support of the Department of the Army's Transformation Policy Including A Review of Forward Surgical Team Unit Assemblage Management

The goal of this GMP was to answer the research question of whether or not the medical supply component listings for the current forward surgical team medical equipment sets actually support the real-world requirements of these forward surgical teams. As the Army's source of far-forward surgical intervention on today's battlefield, these medical units must have the right supplies and equipment in the right quantities to support patient care. By comparing variables that would impact the efficiency and effectiveness of such sets, the researcher has provided an analysis that can augment future reviews of these sets.

Conditions Which Prompted the Study

"There can be no revolution in military affairs without a revolution in military logistics" (Reimer, 1999, para. 1). This statement by then Army Chief of Staff Dennis Reimer illustrated the critical role logistics played in support of the Army at the end of the 1990s. More recently, General Shinseki, the most recent Army Chief of Staff, has established a new vision for the Army including such tenets as: "The Army will provide to the Nation an array of deployable, agile, versatile, and sustainable formations

which are affordable and capable of reversing the condition of human suffering and resolving conflicts decisively" (Donahue, 2002). One measure of General Shinseki's success in implementing this transformation vision is the Army's ability to deploy a brigade anywhere in the world in 96 hours after liftoff, a division in 120 hours, and five divisions in 30 days (Part III, 2001, p. 178). General Shinseki's transformation of the Army will incorporate changes across the full spectrum of doctrine, training, leader development, organization, materiel and soldier support (DTLOMS).

In support of this transformation, the Army Medical Department (AMEDD) must incorporate changes into its combat health system. Medical logistics support (to include supply and maintenance) is currently moving toward a new concept known to the greater Army as Reach Logistics but recognized by the AMEDD as Reach Logistics Medical (RLMED). The basis of this concept is, "…operational positioning and efficient/effective use of available combat service support assets and capabilities from global resources to the soldier in the field to conduct full spectrum operations" (Donahue, 2002). This translates to reducing the medical logistics footprint, or the physical space that a logistics unit/operation occupies, on the battlefield of tomorrow

while still providing world-class support. This is accomplished by leveraging information technology and other sources of combat service support (CSS).

The Army Surgeon General (TSG) has established his vision in support of the Chief of Staff's transformation initiatives. The TSG understands that Army medicine requires materiel and equipment that have unique characteristics of both a physical and management nature. Temperature sensitivity, evolving technology, regulatory issues, and the need for stringent line item management are but a few of the characteristics that make medical materiel, i.e. medical equipment, medical supplies, medical repair parts, optical fabrication, and blood, also referred to as Class VIII, a unique commodity. Potency of medical supplies, i.e. the efficacy of these supplies, and the need for expiration dates cause some items to be referred to as potency and dated (P&D) items. The medical logistics community must utilize innovative business practices such as RLMED and emerging information technology to provide seamless support to the medic on today's battlefield.

In providing a more deployable, agile, versatile, sustainable, and affordable medical supply system to the combat healthcare provider, AMEDD logisticians must re-look such processes as packing lists for sets, kits and outfits

(SKOs) and medical assemblages, i.e. medical materiel sets (MMSs) and medical equipment sets (MESs), as well as unit assemblage (UA) management. An MMS consists of a grouping of medical and non-medical items under a single stock number used to compose the deployable medical systems (DEPMEDS) (AR 40-61, 1995). DEPMEDS includes standard, Department of Defense modular MMSs that are configured into hospitals for use in a wartime theater of operations or as fixed contingency hospitals in peacetime (AR 40-61, 1995). DEPMEDS is a multi-service managed system. A MES is a set consisting of a grouping of medical and non-medical items under a single national stock number (NSN) that is managed by the AMEDD and used by the Army. The difference in MMSs and MESs is the distinction of MMSs being used as building blocks for the DEPMEDS.

UAs delineate the contents of specific MMSs and MESs. MMS and MES contents are the supplies used by combat healthcare providers to provide medical treatment capability. The AMEDD's FSTs use MESs to support their surgical capability to divisional units far forward on the battlefield. Examples of a UA listing of components for a Forward Surgical Team MES are at Appendix A. The contents of medical assemblages are based upon historical casualty estimates and types of wounds treated as well as a

requirements review every three years in accordance with Army Regulation (AR) 40-60, AR 700-60, AR 40-61, Training and Doctrine Command (TRADOC) Pamphlet (PAM) 71-9, and AR 71-32. Effective the first of each month, automated changes to discontinued or deleted NSNs within UAs are made to Army MESs and MMSs. This information is published on the Internet at the United States Army Medical Materiel Agency (USAMMA) homepage and reflects the UAs affected by these changes. NSNs are deleted from individual sets when an official new replacement NSN is identified as an interchangeable and/or substitute item for the set requirement. The process utilized by the Directorate of Combat Doctrine and Developments (DCDD) located at the AMEDD Center and School in making changes to MMSs and MESs is at Appendix B.

Currently, there are two different UAs for the FST MES. The UA with a unit assemblage code (UAC) of 0267 was developed in the mid-1990s, i.e. 1996, and was fielded to FSTs at that time. Since the fielding of that FST, many modifications have occurred and the most current UA (UA 2267), incorporating these changes, was published in 2002. Units with FST MES UA 0267, dated 1996, will continue to use this UA listing until they are fielded those medical components that were added/deleted/upgraded as part of the

UA 2267, dated 2002, for purposes of unit status reporting under the provisions of AR 220-1. By having the two different UAs, units that were originally fielded under the UA 0267, that have not been upgraded at the UA 2267 level, will not be held to the UA 2267 standards. Doing so would be a detriment to the readiness levels of units with UA 0267. The difference in these two UAs is striking in both the medical supply items included and those items added to/deleted from the UA 0267 MES (see Appendix C). The total number of line items decreased from UAC 0267 to 2267. In addition, the total cube of the MES decreased. The most current UA for MES FST, UA 2267, lists 370 line items whereas the older set, UAC 0267 lists 445 line items. The overall cube of the MES has decreased from 514 to 481 (see Tables 1 and 2). In addition, the overall weight of the MES has decreased from 5,742 pounds to 5,019 pounds. This is in line with the Army Chief of Staff's transformation requirement to reduce the logistical footprint on the battlefield of tomorrow. A smaller weight and cube means less strategic lift is required to transport the FST MES thus freeing up space for other movement requirements.

Table 1

Quantitative Summary of UA 2267

	All components (w/ P&Ds)	ASIOE items	Components and ASIOE (complete set)	Components and ASIOE (w/o P&Ds)	All components (w/o P&Ds)
Total items	364	6	370	275	269
Total value	$309,980	$147,849	$457,829	$440,399	$292,549
Total weight	4,264	756	5,019	4,505	3,749
Total cube	443	38	481	431	393

Table 2

Quantitative Summary of UA 0267

	All components (w/ P&Ds)	ASIOE items	Components and ASIOE (complete set)	Components and ASIOE (w/o P&Ds)	All components (w/o P&Ds)
Total items	439	6	445	328	322
Total value	$203,037	$190,020	$393,057	$374,074	$184,055
Total weight	5,092	651	5,742	5,181	4,530
Total cube	490	24	514	469	445

Recent findings at the Army Trauma Training Center (ATTC) located at the Ryder Trauma Center at Jackson Memorial Hospital in Miami, Florida, suggest that the current UAs, i.e. 0267 and 2267, for the MES utilized specifically by FSTs are flawed and do not provide the most agile, versatile, sustainable, and affordable medical

supplies necessary to support the combat healthcare system. The AMEDD has established this training program with Ryder Trauma Center, a civilian trauma-training center in the heart of Miami, and rotates Army FSTs, both Reserve and Active Duty, through the center on an annual basis for real-world trauma training. Rotations for Army Reserve FSTs are two weeks in length, and rotations for Active Component FSTs are 30 days. Recent observations by the program chief, Army Colonel Thomas Knuth (a trauma/critical care surgeon (61J)), indicate that daily consumption rates and types of medical supplies used at the trauma center do not match the current FST UAs. As part of TSG's vision to support the Army's transformation initiatives, it is imperative that further study be conducted on this one slice of medical logistics' focus. This is also imperative in order to optimize the FST MES since there are 39 FSTs in the Active and Reserve component that provide the first emergency resuscitative surgery on the linear and nonlinear, asymmetric battlefield (see listing of FSTs at Appendix D).

Statement of the Problem or Question

This GMP analyzed the question of whether or not the current UAs for FST MESs, i.e. 0267 and 2267, actually support the real-world requirements of these forward surgical teams.

Literature Review

As mentioned earlier, changes to the current Army DTLOMS are necessary to support the transformational requirements of battlefield operations. For Army logistics that has meant a move to the concept of Reach Logistics including improvement of the supply chain from the United States to forward-deployed elements. The AMEDD has responded with the undertaking of RLMED that is based on the concept of focused logistics.

Focused logistics combines logistics information and transportation technologies to support combat forces in military operations (Drushal, 2002). It is the term used by commercial industry to explain the concept of Reach Logistics and is further described below.

> Focused logistics is the ability to provide the right personnel, equipment, and supplies in the right place, at the right time, and in the right quantity. This will be made possible through a real-time, web-based information system providing total asset visibility as part of a common relevant operational picture, effectively linking the operator and logistician across Services and support agencies. (Part III, 2001, p.177)

It is the ability to provide the right personnel, equipment and ancillary resources, i.e. information, in support of the Army's logistics' needs. Flexibility is key to supporting the Army's Objective Force (the combat force of tomorrow). The changing logistical capabilities of maneuver brigades, i.e. technologically-advanced equipment, commonality of equipment parts, and energy efficient platforms (i.e. systems), will greatly reduce the logistical footprint required to support them as they will be designed and equipped to perform 72 hours of combat without logistical support (Drushal, 2002). This is in line with General Shinseki's transformation goals. Reducing this footprint is paramount to meeting the Army Chief of Staff's directives in support of a lighter, faster force. Although organic medical assets will provide a minimum level of force health protection and sustainment, these units will require augmented medical/surgical support from units such as FSTs. The Army must ensure that FSTs have an established packing list for their MESs that is comprehensive and supports surgical requirements of FST patients. UAs based upon real-world trauma management are vital to the operational readiness of FSTs.

Since the mid-1990s, the Department of Defense (DoD) has studied the logistical challenges that face today's

military. Beginning with Joint Vision 2010, titled "America's Military: Preparing for Tomorrow" and published in 1996, the concept of focused logistics (i.e. Reach Logistics) rose to the forefront as a necessary tool in developing the capabilities necessary of today's military. The DoD outlined in this publication the need for integration among Services to support combat forces in a matter of hours or days as opposed to weeks. The path to focused logistics included, per Joint Vision 2010, a conglomeration of information, logistics, and transportation working in concert with the civilian sector to capture advantages recognized by civilian best business practices such as supply chain management (Defense, 2000, p. 27).

This need for emerging logistics concepts was reiterated in 1997 as part of the Quadrennial Defense Review (QDR) in which the DoD looked at reducing its support structure and streamlining its logistics operations to gain efficiency and enhanced performance through adoption of emerging commercial business practices including reengineering, downsizing, and commercializing logistics operations where feasible (Defense, 2000, p. 28). Also in 1997, the Defense Reform Initiative called for the DoD to reduce its support infrastructure by incorporating

major reform efforts. One of the key reforms outlined was that of adopting best business practices from the civilian sector (Defense, 2000, p.28).

In 1998, the Secretary of Defense delivered to Congress a plan to streamline acquisition, workforce, and general infrastructure within the DoD. The Secretary specifically identified a need for fewer and smaller organizations focusing on the management of suppliers instead of the supplies themselves to reduce inventories on-hand and manage wholesale-level logistics more effectively (Defense, 2000, p. 28). Following this, the Logistics Strategic Plan of 1999 established a goal of the year 2005 for DoD to develop a joint logistics process that provides responsive and cost-conscious support to warfighters. It delineated the need for a system that was fully integrated and operated as a supply chain of products and services (Defense, 2000, p.29).

As recently as the Quadrennial Defense Review Report of 2001, the DoD has highlighted the need to transform its military logistics capabilities. The path to this end is outlined as (a) streamlining overhead structure (i.e. flattening the organization), (b) focusing DoD resources on areas that directly contribute to the warfight, (c) modernizing the DoD approach to information sharing, and

(d) consolidating and modernizing base infrastructure (Quadrennial, 2001, p.52).

As part of this path, the idea of supply chain management has only recently become a driving force in the DoD. The need to transform the Army's supply infrastructure to support General Shinseki's transformation policy is a key part in the implementation of supply chain management. Supply chain management is the management of supplies from request to delivery in such a manner that efficiencies along the flow of supplies are compounded. The end result is a system more reactive to consumer needs. In fiscal year (FY) 2000, the DoD's logistics programs and operations totaled approximately $84 billion and accounted for one-third of the DoD's total budget (Integrated, 2002, para. 1). This far exceeds the cumulative budget of the top ten largest commercial operations in the world. By incorporating supply chain management, the commercial sector has effectively reduced inventory levels, improved delivery performance, improved forecasting precision, decreased the number of suppliers and shortened planning cycles, enhanced inter-operational communications and cooperation, provided increased product value, better utilized it resources, reduced the time of its products to

market, and thus has been able to retain its customers (Integrated, 2002, para. 8).

This fundamental shift to view the Army's logistics' infrastructure as a supply chain was monumental. The civilian sector had implemented the concept of supply chain management already and had begun to realize its benefits: cost savings, in-transit visibility of supplies, and timely support of customer demands. Through the use of velocity management, a concept of supply chain operations which looks to reduce the lag time between customer order and delivery of goods, the Army could improve both the speed and accuracy with which materiel and information flow from providers to end users (Eden, 2002). To accomplish its goal of implementing an efficient supply chain, the Army turned to a three-step process: define the process, measure the process, and improve the process (Eden, 2002). The Army has already begun to realize the benefits of supply chain management: expedited deliveries, shortened maintenance repair times, determination of optimum stockage levels of supplies with visibility of these supplies throughout the supply chain, and improved financial visibility, i.e. cost of supplies on-hand, fiscal requirements development, etc. The result is a logistics infrastructure and system that supports combat readiness while at the same time

streamlines the supply chain improving support to the end user.

As indicated above, RLMED provides benefits to the medical logistics system. With industry experts estimating supply chain costs at 75% of an organization's total operating budget, it is no wonder that effective management of the flow of supplies can prove beneficial (Integrated, 2002, para. 5).

To further illustrate the need for improved logistics, the Joint Staff, under the direction of then Chairman of the Joint Chiefs of Staff, General Henry Shelton, established its Joint Vision 2010 that takes advantage of advances in information technology and technological innovation to support four operational concepts, i.e. dominant maneuver, precision engagement, full-dimensional protection, and focused logistics (Shelton, 1999). General Shelton envisioned combat healthcare providers having the capability to stabilize a trauma patient, read health records from a soldier's "Smart card", consult medical experts via telemedicine capabilities, and evacuate to higher echelons of care in a flexible and dependable battlefield healthcare system (Shelton, 1999).

In support of General Shelton's vision, Joint Publication (JP)4-02.1, "Joint Tactics, Techniques and

Procedures for Health Service Logistics Support in Joint Operations”:

> Provides for the planning and execution of theater Health Service Logistics Support (HSLS) for all Service components of a joint or combined force, from alert notification to deployment to and redeployment from a theater. It provides fundamental principles and doctrine for HSLS in joint and multinational operations. (Joint, 2002, page i)

This publication provides for leveraging technology and logistical support systems in supporting Army medicine and incorporating the concepts of RLMED.

The concept of RLMED developed out of a need to support the changing principles of medical logistics. Several factors created the need to develop a logistics system that could support the warfighter of tomorrow. The first factor was the overall shift of the military from a depot-type system of supply management to a commercially based system. The old days of warehouses upon warehouses filled with medical supplies had proven to be cost ineffective and required an infrastructure of immense proportions to support. The commercial industrial sector had already implemented supply chain management and had proven and illustrated its benefits. Second, the Army’s

push to a system of focused logistics and the radical transformation of the CSS infrastructure system as outlined by General Shinseki in his transformation policy. This infrastructure is the backbone of logistics for maneuver units and includes the aspects of fueling, fixing, arming, maintaining, moving, and sustaining the maneuver force.

In support of the Army's transformation initiatives, the then Vice Chief of Staff of the Army, General William W. Crouch, approved in November 1997, the Single Stock Fund (SSF) initiative (Baker & Mannion, 2000, para. 3). The SSF concept is based on consolidating "...(the) management of current wholesale, theater, corps/installation, and division authorized stockage list inventories into a seamless logistics and financial system, thus creating a single, virtual supply and maintenance organization" (Baker, 1999, para. 1). This provides the necessary velocity management required to incorporate an effective supply chain within the Department of the Army (DA). In June of 2000, a memorandum of agreement between the Army and the Defense Logistics Agency (DLA) granted control of a number of responsibilities related to the Army's SSF from the Army to the Army Medical Command (MEDCOM) (Directorate, 2003, para. 1). DLA provides logistics support for both peacetime and wartime missions of the military services and

the Unified Combatant Commands. The responsibility of managing Class VIII (i.e. medical equipment, medical supplies, medical repair parts, optical fabrication, and blood) fell to MEDCOM and was not incorporated into the Army's SSF. This created a requirement for MEDCOM to implement focused logistics into its infrastructure and thus the concept of RLMED was created.

Many other factors have changed the nature of medical logistics support in recent years. The continued movement to the joint concept of operations, i.e. integrated Air Force, Army, Navy, and Marine Corps, has resulted in the establishment of the Army as the DoD's single integrated medical logistics manager (SIMLM) (Donahue, 2002).

> SIMLM is not necessarily an organization, it is a concept. The SIMLM objective is to have integrated planning and management of medical logistics within a theater or AOR to reconcile possibly competing priorities, reduce duplication, and reduce the footprint for inventory and logistics structure. SIMLM is an operational concept that may have a primary responsibility assigned to a unit or Service (like the United Stated Army Medical Materiel Center Europe (USAMMCE)) but its execution must be planned for and

> resourced all the way down to the lowest level that consumes medical logistics' supplies and services. (Kissane, 2001)

Prime vendor contracts, those contracts between the DoD and commercial medical supply companies, have evolved and are accepted as the standard in medical logistics communities. Resource constraints, particularly fiscal concerns, have created a need to efficiently manage available stocks. Finally, the presence and maturation of the 6th Medical Logistics Management Center (MLMC) in support of RLMED initiatives has provided the Army with the necessary capability to support focused logistics for the Class VIII commodity. The 6th MLMC is a theater-level asset that provides centralized information management of medical material, medical equipment maintenance, and blood to deployed forces.

As described in Chapter 5, field manual (FM) 4-93.4, the MLMC "provides management over the Class VIII commodity and medical maintenance within the area of operations (AO) using split-based operations. The MLMC base will remain in the continental United States (CONUS) while deploying a support team into the AO, linking the strategic to the operational level of logistics" (Chapter 5, n.d., p.5-24).

The mission of the 6th MLMC, located at Fort Detrick, Maryland, and a subordinate unit of the 44th Medical Command (MEDCOM) at Fort Bragg, North Carolina, is "...to provide centralized combat health logistics information management and medical logistics intelligence in support of split-based operations" (Buchanan, 2002). The MLMC accomplishes its mission by "mapping" itself, i.e. aligning itself with the information systems utilized by these units for visibility of supplies across the spectrum of logistics, to Forces Command (FORSCOM) medical logistics companies and/or division medical supply offices (DMSO). These organizations receive requisitions from their customers and forward Class VIII requirements they are unable to fill through the 6th MLMC (Forward) element to the MLMC (Rear) element for visibility and diversion to an appropriate supply source. This supply source can be either another unit in theater (i.e. cross-leveling of supplies) or a supporting medical supply organization, such as the 16th Medical Battalion (Logistics), located in Korea or USAMMCE located in Germany. The supporting medical supply organizations coordinate with DLA for stocked items. Similarly, these organizations can utilize an Internet-based platform that is part of the Defense Supply Center Philadelphia's (DSCP), known as the Electronic Catalog (ECAT), to purchase

required Class VIII (Directorate, 2003, para 1). Multiple vendors and contracts are available to these supply organizations. The ultimate goal is to have all FORSCOM Class VIII requisitions submitted electronically (Reach, 2002).

The benefits of RLMED and the MLMC are overwhelming as outlined by COL Jonathan Kissane, Assistant Chief of Staff for Logistics, the Office of the Surgeon General, in a brief on Medical Logistics given in 2002. These include:

- The military's product identification system, or National Stock Numbers (NSN), for components of medical equipment sets are linked to commercial product codes used by civilian medical suppliers in the MLMC database.
- They provides a single electronic gateway for FORSCOM Class VIII requisitions
- They provide a single gateway to manage the distribution of available Class VIII supplies from centrally managed programs (including contingency programs).
- The MLMC can monitor requisitions in the supply chain and route requisitions to various prime distribution centers that can best support the requirements.

- They provide command and control oversight of medical logistics companies and DMSOs by senior FORSCOM medical logisticians.
- They facilitate support of peacetime and wartime requirements as well as the transition from peacetime to wartime operations.
- They leverage existing supply chains and logistics infrastructures to provide the right item, in the right quantity, at the right time, to the right customer in both garrison and field operations (Reach, 2002).

The necessity for precision logistics through RLMED is imperative for the AMEDD's support of the Objective Force. By incorporating focused logistics into the concept of RLMED, the AMEDD is poised to provide effective logistical support. History has proven that logistics is the lifeline of any military campaign and the AMEDD's role helps to conserve the fighting strength. As Sun Tzu, the great Chinese military tactician, once said, "...Doing many calculations and planning will lead to victory, and few calculations and planning will lead to defeat" (Hock, 2002). The AMEDD must calculate, validate, and plan its support requirements in peacetime to support its wartime efforts.

The AMEDD's process for ensuring that it has effectively calculated and planned for its medical resource requirements is outlined and implemented by its DCDD. This organization has responsibility for ensuring that medical UAs for DA medical units meet projected force requirements. The process that DCDD uses is rigorous and ensures a thorough analysis and comparison of current and future requirements to determine actual medical supply needs. DCDD solicits input from subject matter experts to provide increased validity to the end result of the analysis. As mentioned earlier, the process utilized by the Directorate of Combat Doctrine and Development located at the AMEDD Center and School in making changes to medical assemblages, i.e. MMSs and MESs, is at Appendix B. Combined with this process, real-world operational missions and training programs provide the AMEDD with valuable medical supply consumption data. One such training program is the ATTC, which serves as a real world "test bed" for clinical supply requirements for trauma treatment.

In 1996, Congress directed the Department of Defense (DoD) to implement a training program with a focus on trauma training for medical professionals of the military Services (Military, 1998, para. 7). The Surgeons General from the Army, Navy, and Air Force established the Joint

Trauma Training Center (JTTC) at Ben Taub Hospital in Houston, Texas, as a one-year pilot program (Smyth, 1999). This was the first military trauma-training program and this program soon validated the need for a military trauma-training program. The mission of the JTTC was "...to provide Military Trauma Teams with the high volume, real trauma treatment experience that can only be achieved at an inner-city, Level 1 Trauma Center to enhance combat trauma skills and medical readiness" (Ansarov, 2000, para. 10).

The American College of Surgeons recognizes four levels (and level five as noted below) of Trauma Centers, with Level 1 being the most sophisticated. The differences are as follows:

- Level 1: Full range of services including research and medical education;
- Level 2: Full range of services;
- Level 3: Availability of a General Surgeon, Orthopedic, Neuro-surgical and Emergency Services specialists on-call 24-hours-a-day/7-days-a-week;
- Level 4: Emergency services with a surgeon available (certain states only require a physician to be available);

- Level 5: This is only seen in Washington State Statute and is a non-physician staffed clinic, i.e., Advance Nurse Practitioner Emergency Care facility in an isolated community where no physician is otherwise available (Trauma, 2003, para. 2).

Ben Taub Hospital began training the Army's FST personnel, as well as medical professionals from the Navy and Air Force, in September 1998. Serving as a Level 1 trauma center (i.e. evaluated by/in compliance with standards of the American College of Surgeons for Level 1 certification), Ben Taub treats approximately 150,000 patients per year (Military, 1998, para. 2). What prompted the origins of this program was an in-depth study conducted by the General Accounting Office (GAO) after the Gulf War (Operation Desert Shield/Desert Storm). This study determined that many medical personnel serving in this conflict had little or no experience in taking care of trauma patients. Of the 16 surgeons on the Navy hospital ship USNS Mercy, only two had recent trauma surgical experience prior to the Gulf War (Military, 1998, para. 4). Also, many of the medical personnel at battalion-level units had never witnessed advanced trauma life support (ATLS) being administered to a trauma patient.

Of increasing concern to the GAO was the apparent lack of training of military medical professionals in trauma care. To illustrate, a survey by the JTTC staff concluded that the average number of gunshot wound patients seen by a military general surgeon six months before arriving at Ben Taub was less than 10 as compared to a month of training at Ben Taub which provided hands-on training with 60 gunshot wounds (Ansarov, 2000, para. 6).

Military health care providers had proven efficiency and competence in providing peacetime care, but this type of care was not analogous with the injuries most often seen in combat. History has shown the distribution of injuries received in combat through such conflicts as World War II and Vietnam, and Table 3 provides the anatomical distribution of battle wounds (Emergency, n.d., para. 4).

Table 3

Anatomical Distribution of Battle Wounds

Location	World War II	Vietnam War
Multiple	11%	20%
Head/Neck/Face	12	14
Chest	8	7
Abdomen	4	5
Upper Extremities	26	18
Lower Extremities	39	36
	100%	100%

One source for determining United States Army estimates for military casualties from ground combat operations and disease and non-battle injuries is the Army Casualty Estimator (ACE) (OPLOG, n.d., para. 1). Developed by the AMEDD Center and School, this collection of algorithms calculates the quantities of Class VIII supplies, (i.e. in terms of weight and volume) minus blood, required to support a specific unit or a given task force organization.

The Services' proficiency in performing live births, uterine and ovarian procedures, and various digestive disorders did not relate to the need for proficiency in treating combat trauma wounds such as open penetrating wounds, non-perforating fragment wounds, and the possibility of limb amputations. It had become clear that future military medicine would require real-world trauma

proficiency training for the AMEDD's smaller and more austere surgical units (FSTs) (Proceedings, 2001, p. 20).

The trauma-training program at Ben Taub splintered into three separate programs – one for each Service. The Army created the ATTC in October 2000. The Air Force established a trauma-training program in Baltimore, Maryland, and the Navy established a program in San Diego, California. The ATTC hosted its first rotating FST in January of 2001 just three months after moving to Miami. Providing this training opportunity for the ATTC is the Ryder Trauma Training Center of Jackson Memorial Hospital.

The Ryder Trauma Center is considered by many to be the largest, most comprehensive trauma center in the world. The Ryder Trauma Center provides resuscitation, emergency surgical intervention, diagnostic/medical treatment, and intensive care to Dade County's trauma victims. Patient demographics for the Ryder Trauma Center are at Table 4 (Ryder, 2002, para. 30). It is the only Level 1 trauma center in South Florida for both adults and children. It provides 24-hour-a-day, 7-day-a-week trauma care with competent personnel and the latest in medical technology.

Table 4

Ryder Trauma Training Center Cases for Calendar Year 2001

Type of Trauma	# of Cases
Blunt	2,582
Penetrating	849
Burns	122
Other	0
Total Number of Cases	3,553
Demographics	
Adult Male	2,497
Pediatric Male	190
Adult Female	779
Pediatric Female	87
Average Age	36

Ryder is geared toward lowering the preventable death rate by speeding up the delivery of trauma care during the golden hour (i.e. the critical 60 minutes after an injury). The term “golden hour” was coined by 1LT R. Adams Cowley, an Army surgeon just after World War II in Europe, and referred to what 1LT Cowley called the "golden hour" immediately following a serious injury during which prompt and coordinated medical treatment can save lives (Arlington, 2003, para. 2). Recently, there has been a national trend of trauma center closures. While many of the trauma centers existing in the nation five years ago have since closed, Ryder Trauma Center remains a premier

facility focused on world-class trauma care (Ryder, n.d., para. 2).

Ryder Trauma Center's physical structure (i.e. 166,000 ft^2) combines state-of-the-art technology with the flexibility to expand to meet the future needs of the community (Ryder, n.d., para.3). It consists of a basement and four stories with a helipad located on the roof. The trauma center was named in honor of Ryder Systems, Inc., a corporate contributor to the South Florida community.

Ryder Trauma Center provides resuscitation, emergency surgical intervention, diagnostic and medical treatment, and intensive care to trauma victims in Miami-Dade County and the Caribbean Basin. "From resuscitation to rehabilitation, the center provides a comprehensive continuum of care to the entire community" (Ryder, 2002, para. 1).

The mission of the ATTC, i.e. to ensure the clinical readiness of Forward Surgical Teams, ensures a continuum of care for the military community on today's battlefield (ATTC, 2002, para. 1). There are seven officers and two non-commissioned officers (NCOs) assigned to the ATTC: one Trauma surgeon serving as the program director (currently COL Knuth, a General Surgeon (61J), one orthopedic surgeon (61M), one emergency room (ER) nurse (66H), one operating

room (OR) nurse (66E), one certified and registered nurse anesthetist (CRNA) (66F), one intensive care unit (ICU) nurse (66H), one administrative officer (70B), and two soldier medics (91W) NCOs. Assigned to the AMEDD Center and School, Department of Medical Sciences, (with duty in Miami) this staff coordinates with the Ryder Trauma Center civilian staff to ensure seamless execution of the ATTC's mission.

The ATTC executes its mission by ensuring FSTs train as a team through the various clinical areas of Ryder Trauma Center. The rotation begins with an evaluation of pre-rotation clinical skills to use as a benchmark for evaluation of clinical skills learned at the end of the rotation. These skills vary by clinical specialty and are determined by the ATTC staff based on their experience and clinical expertise. These lists of clinical skills include what the ATTC staff determines are the top 100 skills necessary for each clinical specialty (i.e. operating room nurse, orthopedic surgeon, etc.). The ATTC staff uses a test to provide this assessment as well as a soldier self-assessment of clinical skills in 100 military occupational skill (MOS)/area of concentration (AOC) tasks.

After this initial assessment comprised of the evaluation of top 100 clinical skills and a soldier self-

assessment, the FST participates in a “pig lab”, a scenario-driven clinical exercise by which the team is evaluated on treating real-world trauma injuries inflicted upon pigs. Pigs are used because their cardiovascular systems closely resemble that of a human’s systems. The ATTC staff evaluates the FST on command and control as well as clinical skills. This lab not only serves as an evaluation tool of the FST’s skills but also as a motivational tool to get the rotating FST in the proper mind-set for the trauma rotation to follow.

During the course of the program, the ATTC staff integrates FST personnel into the Ryder Trauma Center and its many departments. Some soldiers are able to receive training at Miami-area fire and rescue units and participate in both ground and air patient evacuations. While at the Ryder Trauma Center (i.e. the fixed facility), soldiers rotate through such areas as the surgical and medical emergency rooms, the trauma resuscitation area, surgical suites, medical examiner’s office, cadaver lab, and work shifts during the rotation to observe cases at all hours of the day. In addition, the FST personnel attend didactic classes/lectures given by world-renown clinicians of the Ryder Trauma Center. To supplement this schedule, the ATTC assigns topics (i.e. cold weather injury

prevention, airway-breathing-circulation assessment, etc.) to the FST chain of command that they present in formal and hip pocket, or more informal, training. Clinical cases seen throughout the rotation provide an exceptional learning tool, as well, and the surgeons assigned to the FSTs present cases to the ATTC staff to supplement the already robust didactic schedule. The clinical focus is on learning from those cases that best mimic the trauma wounds that FSTs will encounter in real-world combat operations (ATTC, 2002, para. 7).

The culminating event of the ATTC rotation is what the ATTC refers to as the Super Bowl event (see Appendix E for the ATTC lesson plan for this event). This 48-hour event serves as a comprehensive evaluation of the clinical and command and control skills that the FST acquires while at the ATTC. The rotating FST operates as if it were in an isolated environment by treating and managing all trauma cases arriving at the Ryder Trauma Center during a 48-hour continuous period (Knuth, 2002). The Ryder Trauma Center staff provides assistance, as required, but allows the FST to make most management decisions on patient care. This real-world training experience is invaluable and serves as a hands-on evaluation tool that can truly document the skill sets reinforced and learned during the ATTC rotation.

Upon completion of the Super Bowl event, the ATTC staff administers FST soldiers a post-test evaluation, consisting of the same test that was originally given the soldiers upon their arrival at the ATTC, i.e. a multiple choice exam of clinical scenarios and general medical doctrine, to assess clinical skills acquired during the rotation. This provides the FST soldiers, as well as the ATTC staff, feedback on areas requiring improvement or training deficiencies.

During the time period January 5-19, 2003, this researcher had the opportunity to observe a FST rotation through the ATTC. During this time period, the 945th FST based out of Ft. Snelling, Minnesota, completed its rotation. The 945th FST is a Reserve Component FST. This FST, as well as many others, continues to prepare for possible deployment in support of future operations. The FST organizational structure and authorized strength is located at Appendix F.

Purpose

A thorough analysis of both UA 0267 and UA 2267 for FST MESs was conducted. Medical supplies utilized by a Reserve Component, a Component Code (COMPO) 3 unit , FST rotating through the ATTC at Ryder Trauma Center were tracked during the FST's 2-week rotation through this

facility. This analysis compared the supply needs of the FST during the two-week trauma rotation in Miami to both of the UAs currently published by the AMEDD. This was accomplished through a side-by-side comparison of both of the published UA's component quantities and real-world medical logistics consumption rates.

Objectives were to observe first-hand an FST rotating through the trauma center, analyze current UAs, analyze current information available through USAMMA on the FST MES, discuss medical supply requirements with the ATTC clinical and administrative staff as well as the rotating FST personnel to determine their logistics' requirements from experience, and relate the findings of this GMP to the need for changes to the two established UAs for FSTs.

The variables observed for this project were UA 0267 and UA 2267 for a FST MES with the medical supplies listed for each and the observed, actual data, i.e. medical supply consumption rates, obtained while at the ATTC. Each UA included the variables of each medical item by type and quantity (i.e. allowance). In addition, the variable of actual, observed medical supplies consumed by the 945th FST with ATTC rotation dates of January 5-19, 2003 were observed.

The variable of actual, observed medical supplies included those items observed as being consumed during the 945th FST's 2-week ATTC rotation that were not part of either of the existing UAs for the MES FST. This variable highlighted the difference between medical supplies listed as part of the existing MES FST UAs and actual, observed medical supplies consumed in patient treatment. Analysis of this variable was important in conducting the comparison of existing MES FST UAs and real-world FST medical supply consumption rates at the ATTC in Miami, Florida.

The working hypothesis was that there are differences between the real-world consumption levels of individual line items, the actual components of each UA, versus the established component levels in the UAs. The null hypothesis was that there are no differences.

Method and Procedures

The researcher began collecting information for use in comparing the two established UAs, UA 0267 and 2267, with the consumption levels of medical supplies at the ATTC. Data collected through use of the United States Army Medical Materiel Agency (USAMMA) Internet site (i.e. http://www.usamma.army.mil/) proved very useful in establishing the baseline for UA comparison. The USAMMA web site provides medical logisticians with the ability to

search UAs by a multitude of means. This researcher searched for the MES FST by using the UA codes provided by Mr. Ron Shoemaker at USAMMA. After obtaining the established UA listing for the FST MES (of which two were found) an analysis of the results took place concurrently with the researcher's rotation at the ATTC.

This investigation utilized a research design using established data to conduct analysis of the functionality of the published UAs for the FST MES. The researcher's intent for this project was to research the topic of RLMED, its support of the Army Chief of Staff's Transformation policy, and the analysis of current UAs used by FSTs. Background research on the Army's evolving transformation strategy, the role of supply chain economies in the military and civilian business worlds, and the role of FSTs in providing trauma care provided the researcher the necessary basis of knowledge in the events leading up to the necessity for RLMED in support of the transformation goals of the Army. The on-site observation of the ATTC and its operational consumption of medical supplies provided a real-time scenario in which to conduct a portion of the research.

As part of this research, there were no human subjects used in this study, as it was an analysis of existing UAs

for the two MES FST and actual, observed data of medical supply consumption rates at the ATTC. Therefore, issues of consent did not apply.

The researcher obtained the two published UA listings for the existing FST MES from the USAMMA Internet home page. The researcher ensured that monthly updates to the UAs were included, as needed. From the beginning of the project (i.e. October 2002 time frame) to the present, there were 3 additions to UA 2267 dated 2002. All UAs are updated monthly to incorporate deleted or changed national stock numbers within the UAs keeping the UAs constantly updated. Once the researcher obtained these UAs, a line-by-line comparison of them enabled the researcher to identify additions to and deletions from UA 0267 as compared to UA 2267 (see Appendix C). Individual line items for UA 0267, published 1996, numbered 445. Individual line items for UA 2267 numbered 370 dated 2002 with changes through March 1, 2003. These numbers included the Associated Support Items of Equipment (ASIOE) associated with each MES. ASIOE include equipment essential to the operation, maintenance, or transportation of the principal items of equipment in a set.

Data for the variable of actual, observed medical supplies consumed at the ATTC was obtained during the

January 2003 ATTC rotation of the 945th FST from Minnesota. The researcher obtained this information by observing first-hand the 945th FST providing resuscitation and management of trauma patients at the Ryder Trauma Training Center located in the Jackson Medical Center in Miami, Florida.

Validity and Reliability of the Study

The issues of validity and reliability are important in any research. Validity is defined as ensuring that the correct variables were evaluated and the research method chosen was appropriate. Reliability deals with the ability to repeat the project multiple times using the same parameters with the results being the same. The researcher obtained UA 0267 and UA 2267 used in this study from USAMMA. USAMMA serves as the Army agent for medical materiel and sustainment programs (USAMMA, 2003, para. 1). USAMMA's UA website is an official listing for UAs and serves as a reliable source of information. The ATTC is the only trauma-training program in the Army, information obtained from it serves as the basis for Army clinical doctrine for FSTs. The researcher established reliability by using the above-mentioned information sources that ensured reliable information was obtained. USAMMA serves as the Army's agent for medical materiel and serves as the

portal for UA updates. As the Army's agent, USAMMA is a reliable source for medical materiel information.

To ensure the validity and reliability of the variable medical supplies actually consumed by the 945th FST, supervision of trauma cases treated by the FST at the ATTC occurred first-hand. The researcher annotated those items consumed by the 945th FST throughout its rotation. This first-hand observation did not allow for corruption of data and ensured the collection of accurate data. As a representative FST within the Army, the 945th FST's medical supply consumption rates are representative of all FSTs based on treatment of trauma patients at the ATTC.

Data Analysis

Analysis of the data from the ATTC was an involved process. To accomplish this, this researcher looked at the process in place at the ATTC for capturing supplies used in trauma treatment scenarios. Ryder Trauma Center uses a system to track patient treatment data known as the Care System. Data from this system was able to identify medical supply items used down to the individual line item level, but in doing so was very cumbersome in its documentation of these items. Each individual treatment scenario, e.g. gunshot to the forearm, was assigned a listing of supplies required for treatment. These supplies are functionally

packed and an inventory sheet is attached to the packs for ease of identification of their contents. Items not required are identified prior to treatment and medical personnel have the option of adding to or deleting from current supply listings. Generic treatment packs are located in the trauma resuscitation areas and more specific, planned procedures such as surgical cases are used when possible. This system captures supplies used and then interfaces with Ryder's financial system for patient billing.

Understanding this system was important to the researcher as it provided historical knowledge of how the ATTC captured supply costs. This system, though, was not capable of providing information in the format required, so the researcher chose to observe trauma case management first-hand. The 945th FST personnel manned the trauma resuscitation area, the operating room suites, the medical emergency room, and the medicine emergency room area with its staff. The listing of the manpower assets of an FST is at Appendix F. The 945th FST conducted its training and completed its rotation without a full complement of personnel as it was short one general surgeon and one field medical assistant. There was no serious impact on the rotation due to this shortfall in personnel. Clinical

personnel from Ryder Trauma Center augmented the FST personnel during its rotation and were able to fill any voids in patient care caused by the absence of the two FST personnel. Of note, the field medical assistant is a non-clinical officer so his/her absence did not have a direct impact on patient care.

As the trauma resuscitation area dealt first-hand with trauma cases during the "golden hour," researcher observed cases in this area. To track medical supplies consumed, the researcher observed trauma treatment cases first-hand and annotated medical supplies used in the trauma resuscitation area. Items were identified by type and quantity. During the 945th FST's rotation, the FST personnel provided treatment for 98 trauma cases. Since the ATTC does not use the exact same medical supplies as identified in the two published FST UAs, comparison of supplies consumed and those annotated on the two FST MES UAs was not a direct comparison but similar items were compared with one another. An example would be a pressure dressing used by the military is equivalent to bandage products in the civilian sector. In addition, an expendable item, such as a syringe, was compared by gauge of needle and fluid capacity even though the ATTC does not use the exact product as the FST MES UA. Expendable items are those that are not

consumed in use that cost $50 or less and are not already categorized as nonexpendable or durable. This process allowed the researcher to compare line-by-line the items consumed during the 945th FST's ATTC rotation with both of the published FST UAs.

During this rotation, in addition to the above analysis, the researcher reviewed the ATTC's unauthorized equipment listing (UEL). As part of this review, the researcher observed the ATTC staff adding items to the UEL that the 945th FST identified as essential to trauma management in the field. This UEL provided a listing of those items identified during a FST's rotation through the ATTC as being essential to providing trauma treatment that are not documented in the current FST MES UAs. They are shortfalls of the current UAs based upon real-world medical supply needs seen by FSTs rotating through the ATTC. In addition to the generic nomenclature of the medical supply/equipment item, the 945th FST recommended specific manufacturers or product model numbers that could be added to the FST UAs. Also found on the UEL is the Accounting Requirements Code (ARC) that is a code used to indicate the level of accountability for supplies and/or equipment. This code categorizes the items on the UEL as nonexpendable, durable, or expendable and provides a definition of each.

The three categories clarify the level of accountability required when managing these items. Generally speaking, the nonexpendable items are of a higher dollar value than either the durable or expendable items. A listing of the current ATTC UEL, which incorporates suggested items from all FSTs rotating through the ATTC to date, can be found at Appendix G.

In addition to comparing the FSTS UA component quantities to those found at the ATTC, the researcher completed a comparison of the FST MES UAs, i.e. UA 0267 and 2267. An analysis of these UAs provided information on the changing nature of UAs. The 1996-dated UA (i.e. UA 0267) had a total of 445 line items. Of these, 439 line items were components of the medical assemblage and 6 were listed as ASIOE, i.e. those items that are not components of the assemblage but are required to support the set. ASIOE is authorized separately on the unit's authorization document. In contrast, the UA established in the year 2002, i.e. UA 2267, had a total of 370 individual line items with 364 components and 6 ASIOE items.

As is evident by these numbers, the comparison of UA 0267 with UA 2267 identified several differences between these UAs. Both UA listings were obtained from the USAMMA homepage on the Internet and then were converted into

Microsoft Excel spreadsheets. The next step included a by-line comparison of UA 0267 and UA 2267 to identify differences between the two UAs. The researcher classified these differences into two categories: additions and deletions. Upon completion of the comparison of the UAs, one consolidated worksheet highlighted the differences between the two FST UAs (see Appendix C). The comparison of FST UAs included a review of nonexpendable, durable, and expendable medical supply items as well as the ASIOE associated with each.

Of these 6 ASOIE items, there were only four items that changed between these two UAs. These are outlined in Table 5.

Table 5

ASOIE Changes Made Between UA 0267 and UA 2267

Change	UA	LIN	Nomenclature	Unit of Issue	Allow-ance
Deleted from	0267	M66558	Monitor Patient Vital	each	2
Deleted from	0267	M79195	Monitor Patient Vital	each	6
Added to	2267	M66558	Monitor Patient Vital	each	2
Added to	2267	V99788	Ventilator Volume	each	4

Of the analyses performed, many focused on the concept of the AMEDD's implementation of commercial best practices in the area of logistics for meeting Army transformation goals. A thorough literature review provided the necessary research to analyze current concepts introduced to the AMEDD, such as RLMED and the ever-changing use of the MLMC, and proved these are in line with current DA supply chain and focused logistics goals.

Limitations of the Study

As part of this GMP, the researcher incorporated the concept of a FST UA review per a request by COL Knuth, the ATTC Director. The process of understanding the ATTC's current goal of how to best capture supply data used in trauma treatment and translate this information into a thorough, but concise, UA for FSTs yielded the following questions that must be answered by further research into this topic. These questions include:

- What is the optimal UA for an FST?
- What is the best process for determining the optimal UA for FST missions and define a process for determining the optimal UA for the FST missions?

As identified by COL Knuth, one end point (or deliverable) of the ATTC project in the future will be to determine a

fail-safe process for collecting data regarding supply and re-supply of Army FSTs and translate this into a more functional FST MES unit assemblage. In determining the answer to COL Knuth's question, it became apparent that future study of the ATTC's project on FST UA development will include the need for more temporary duty at the ATTC location in Florida and refinement of COL Knuth's deliverables. This would make an excellent follow-on study to this GMP as the scope of the issue has a multitude of smaller issues to resolve in meeting all of COL Knuth's requirements.

In meeting COL Knuth's requirements, a limitation identified was the use of the clinical setting of the Ryder Trauma Center to conduct the comparison of FST UAs to actual supplies consumed. The reasons for this limitation were threefold: (a) the Ryder Trauma Center does not solely use medical supplies that are assigned to the FST UAs, (b) actual consumption rates per case were difficult to capture due to multiple traumas occurring simultaneously, and (c) Ryder Trauma Center uses an automated system to generically track supplies used but it is designed specifically for patient billing. This system annotated supplies consumed in treatment by procedure, i.e. gunshot wound to the forearm, as a generic list of medical supplies and did not

separately identify these supplies. This did not allow the researcher to track specific items consumed to the line-item level as needed.

Ryder Trauma Center, as a civilian organization, utilizes different medical supplies than the Army FSTs do. There are definite similarities in the types of narcotics and other medical supplies used, but those supplies used at the ATTC are not 100% comparable to FST UA listings. Therefore, in treating patients at the ATTC, FST personnel consume multiple expendable supplies, i.e. supplies consumed in use and not recoverable after use, based on the order list of Ryder Trauma Center's Department of Logistics. This added to the difficulty of developing a system to compare usage rates at the ATTC to those of UAs 0267 and 2267.

Another difficulty in conducting this study was the dynamic nature of the ATTC with its constant patient workload. As with any trauma center, there are busy times and there are lulls in patient flow; however, there were multiple instances where the FST personnel were treating two or three patients at a time. This made the physical tracking of supplies very difficult. Normally the FST has an administrative officer rotating with it as part of the team, but the FST observed for this GMP did not. The job of

the administrative officer is to track medical supplies consumed in use with assistance from the ATTC administrative staff, i.e. the field medical assistant (70B) assigned to the ATTC. The absence of an additional "set of eyes" made tracking the consumption of medical supplies difficult.

Finally, although Ryder Trauma Center has an automated system for tracking supplies consumed in patient care, the system is built around a generic listing of supplies based on the type of wound treated. The Ryder Trauma Center charges patients for supplies consumed in treatment based upon medical supply sets for specific types of wounds: gunshot wound to the leg, stab wound to the neck, etc. These listings are generic in nature but can be modified to add or delete items consumed in use. However, these are based on those trauma injuries requiring surgical intervention and not those seen in the initial trauma resuscitation areas. The supplies consumed in these areas are not as closely tracked; instead, Ryder Trauma Center charges a flat fee for these services. This made tracking consumption rates in the resuscitation areas very difficult.

Results

Findings

In comparing UAs 0267 and 2267 to those medical supply items actually consumed at the ATTC during the 945th FST's rotation in January, differences between the current UA listings of medical supply items for FSTs and real-world consumption rates were observed. Each UA accounts for those medical supply items that the AMEDD Center and School, i.e. DCDD, has approved as components of the FST MES. Subject matter experts (SME), as part of the DCDD process discussed earlier, deem these supply items necessary for performing surgical intervention and stabilizing life-threatening injuries in the field environment. Observation of FSTs at the ATTC, however, has determined that there are other items that are critical to providing world-class healthcare in the most austere environments. A list of these is located at Appendix G. The ATTC consolidates these items into what it refers to as the UEL.

As part of the UEL at Appendix G, one can see that the two published FST MES UAs do not include a total of 57 items (either in part or as a whole) that real-world trauma treatment at the ATTC has shown are necessary for FSTs in performing their mission. Of these items, 13 are nonexpendable items, 18 are durable items, and 26 are

expendable items. Specific on-hand quantities of these items have not been identified as of the time of this research, but the 945th FST commented that these items would provide necessary augmentation to the current FST UAs allowing FSTs to provide world-class healthcare in austere environments. The ATTC continues to add to this UEL each time a rotating FST identifies a requirement currently not documented on either UA 0267 or 2267. Currently there is no validation of these identified UEL items. This researcher proposes that further research be conducted to validate items listed on the UEL. In addition, the researcher recommends that DCDD at the AMEDD Center and School and Assistant Chief of Staff, Health Policy and Services at OTSG incorporate this review into the UA review process.

The total number of requirements that this study identified, in conjunction with the established ATTC UEL, was 57. These are medical items that trauma treatment at the ATTC showed are necessary for FSTs in performing their mission. The identification of these items illustrates a gap between FST medical supply items required in providing patient care and those items currently available to FSTs as part of their MES FST. The listing of medical supply item shortfalls identified by this study (see Appendix G) provides a basis for DCDD to implement as part of its MES

review process and for recommendation for procurement in building future FST MESs.

The data collected and analyzed by this study also provides the Director of the ATTC, Ryder Trauma Center, the Assistant Chief of Staff, Logistics at OTSG, and the US Army Medical Materiel Agency (USAMMA) with relevant information on trauma-related consumption rates. These individuals and/or organizations can then take steps to implement changes where feasible and procure these items.

The requirements identified by FSTs include not only those items consumed in patient care but also durable and non-expendable items that are used to treat patients and that are not consumed. The 13 nonexpendable medical and 18 durable supply items support patient care and represent pieces of equipment that provide both clinical and administrative support services from ultrasounds to tentage (i.e. DRASH), respectively. These items would require the cost of the initial purchase and/or the cost of required upgrades.

In terms of upgrades, a comparison of the published FST MES UAs, 0267 and 2267, identified a need for upgrades to some medical equipment. Items such as upgraded Propaqs (vital signs monitors) with the ability to monitor carbon monoxide, portable ultrasounds, upgraded surgical headlamps

for FST personnel, and Thermal Angels (fluid warmers) would upgrade the current capabilities of the FST and augment current healthcare operations. In addition, items such as the DRASH tentage system would provide a decreased cube alternative to current tentage used by FSTs. This would reduce the strategic lift requirements, i.e. land/air/sea, required to deploy FSTs by reducing the footprint of the FSTs thus meeting the Reach Logistics tenets of increased agility and versatility. In addition, the quality of healthcare and ability of FSTs to provide care equitable to that found in fixed medical treatment facilities would be increased.

Currently, the fact that there are two existing MES FST UAs with a variance in medical items on each highlights a need to publish one authorized and comprehensive UA for a FST MES. This study provides a basis for identifying items that could be added to the FST MES. The analysis of the overall changes in UAs from UAC 0267 and 2267 found at Appendix C indicated a net effect of 113 additions of individual line items to UAC 2267 and 189 deletions from the UAC 0267. These differences are significant, and the net effect of these differences provides a basis for publishing one authorized and comprehensive UA listing for a FST MES.

This project provides a solid documentation of the implementation of transformation objectives by the AMEDD through the implementation of RLMED. A comparison of UAs 0267 and 2267 using Tables 1 and 2 of this GMP supports this concept. Using the Medical Services Information Logistics Systems (MEDSILS) database provided by USAMMA, the researcher compared the weight, cube, total line item number, and dollar value of each UA. The MEDSILS database serves as a central source for medical and non-medical logistics data required to support the Tri-Services' healthcare missions (USAMMA, 2003). Its generation, transmission, validation, control, and dissemination of logistics data provided the necessary data to perform the analysis. The result of the UAs' comparison substantiated the AMEDD's support of General Shinseki's Transformation Objectives by moving to a smaller cube and lighter weight logistics support package for FSTs in deployed situations. The total number of line items decreased from UA 0267 to 2267, i.e. 445 line items as compared to 370 line items, respectively. In addition, the total cube of the MES decreased from 5,742 pounds to 5,019 pounds, respectively.

In summary, this project has provided a framework for future studies to use in capturing the data necessary to implement FST MES UA changes. Through a dialogue with the

ATTC Director while on temporary duty (TDY) to Miami, Florida, this researcher was able to clearly articulate the objectives of future studies to include:

- Determine the optimal FST MES UA for differing types of missions FSTs face in the current world's political, military, and economic environments.
- Determine the process for obtaining the optimal FST MES UA and identify the optimal MES FST UA.

Discussion

General Discussion and Impact of Findings

A comparison was made, as part of this research, of information obtained from the MEDSILS database for UA 0267 and UA 2267. This comparison included the UAs' cube, weight, and total dollar amounts. The reduction of weight and cube from UA 0267 to UA 2267 was made evident by this comparison. The information obtained from MEDSILS (found at Tables 1 and 2) identified four key changes between the 1996 FST MES UA listing, UA 0267, and the 2002 one, UA 2267: (a) a reduction in the total number of medical supply line items, (b) a reduction in the overall weight of the UA, (c) the reduction of the overall cube of the UA, and (d) the overall increase in the cost of the FST MES UA when looking at the move from the 1996 UA 0267 to the more

recent 2002 version, i.e. UA 2267. These results illustrate the ability of the AMEDD to adhere to Army Transformation Objectives but indicate the cost of doing so. The overall cost of the MES FST UA grew from $203,037 (UA 0267) to $309,980 (UA 2267). This cost can be associated with the AMEDD's move to lighter weight, smaller cube medical supplies and equipment that could perform as well or better than larger, more commonly procured hospital equipment. In addition, it resulted from procuring items that were more versatile and capable of performing more tasks but at a higher cost. This increased cost is an issue that the AMEDD and the Army as a whole must consider as they transform their logistics systems, support agencies, and equipment packages. With a tightening DA budget in recent years, cost increases must be scrutinized.

In addition to the comparison of information obtained from MEDSILS, analysis of the UEL produced by the ATTC identified medical supply items and equipment that rotating FSTs have identified as crucial to treatment of trauma patients. On the UEL (Appendix G), the ATTC identified those items that it feels should be incorporated into future FST MES UAs. These organizations can use the UEL as a starting point for building requirements for the FST MES UA in the coming fiscal years. However, this UEL must be

validated to ensure that its requirements meet clinical and logistical screening criteria. In addition, these items can provide a basis for developing budget requirements for this process. As mentioned previously, there needs to be a validation of the ATTC's UEL as part of DCDD's and the Assistant Chief of Staff, Health Policy and Services' UA review process.

In addition to the identification of UEL items at Appendix G, the comparison of the current FST MES UAs, i.e. UAs 0267 and 2267, demonstrates the need for one consolidated UA for the FST MES. This need for a single UA for the FST MES would provide the single source for all FSTs to base their requirements on and eliminate disparity between like units, i.e. FSTs, in the Army's force structure. There are medical items identified for deletion and/or addition and upgrades between the two UAs, UA 0267 and UA 2267, and a consolidated UA listing would provide the definitive answer to what best comprises and FST MES. The benefits of a reduction of the total line items, a reduction in total weight, and a reduction in the cube, i.e. total space requirements, when comparing UA 2267 to UA 0267 are many and are in keeping with the AMEDD's transformation objectives of a lighter, more mobile force. This smaller, lighter, and more versatile UA would require

less cargo space for shipment and provide increased capability in the field environment.

The AMEDD and the DA have already placed a tremendous amount of resources and effort into developing commercial business practices into internal logistics functions and systems. Such focus has originated at the top with the Army Surgeon General and Army Chief of Staff, respectively, and has filtered its way down to such medical logistics centers of excellence as the 6th MLMC, USAMMA, the Medical Research and Materiel Command (MRMC), USAMMA's higher headquarters, and other AMEDD logistics organizations. There is a plethora of information on such concepts as supply chain management and velocity management, and this study is but a glimpse at some of the information that exists today.

The reference sources sighted in this GMP provide a good source to the AMEDD enterprise on the concept of RLMED and its benefits to the DA. It also serves as a reference source for other Services to gain an understanding of the AMEDD initiatives as it implements the focused logistics concepts so clearly outlined by the most recent Army Chief of Staff, General Shinseki.

These focused logistics concepts are then further dissected into the tactical level of logistics at the unit level – in this case, the FST. A glimpse at the ATTC, the

Army's trauma training program, provides insight into the need for a medical logistics system that adequately supports the needs of military healthcare professionals. The creation of UA updates incorporating system upgrades while simultaneously reducing deployment requirements through smaller, more flexible logistical support packages is paramount to mission success. The identification of a plan to implement a system of identifying functional FST MES configurations will support the combat healthcare mission. This plan, with further study, will yield a management system that when incorporated will provide valuable data for implementation of necessary changes to the current FST MES UA listings.

The integration of RLMED into the AMEDD's logistics functions continues to grow. One definition of this concept is found in the acronym R^3STPE^2PC. This acronym, coined by the Air Force, represents the Right Stuff, Right Time, Right Place, Effective and Efficient, Peacetime and Contingency (Sager, 2002, p. 10). This GMP has illustrated that the concept of RLMED is critical to the AMEDD logistics community's success. Improved visibility of medical supplies throughout the logistics system (i.e. at unit-level, in-transit, etc), efficient management of resources, reduction of the medical logistics footprint,

and effective support of battlefield requisitions is paramount in achieving mission success. Further, it has shown that at the tactical level, i.e. the Army's FST units, this process continues to provide a means of meeting transformation objectives by reducing weight and cube.

The foundation of the transformation objectives in the AMEDD is a Class VIII supply chain that includes the following traits:

- a dedicated command and control system that incorporates all aspects of communications, intelligence, technology, and surveillance
- direct links to commercial business support systems
- centralized management of supply contracts (i.e. prime vendors)
- responsive transportation throughout the chain
- and finally, total asset visibility, or tracking of all materiel in the logistics supply chain (Donahue, 2002).

These traits are in line with those of focused logistics and serve to outline the framework for the AMEDD's medical logistics system.

In providing an additional framework for the medical logistics system, the comparison of medical supplies used at the ATTC during a FST's rotation and those found on the

two FST MES UAs identified areas that should serve as a basis for future UA reviews. As mentioned, the ATTC continues to add to its UEL with each FST's rotation, and this document serves as an excellent accounting of medical supply items that FST personnel have identified as necessary in performing their missions. These items are not "nice to have" items but instead offer a distinct benefit over current FST UA components - whether they replace current equipment or augment it.

Conclusion and Recommendations

In conclusion, this GMP objectively shows the feasibility of implementing the commercial business practices in the AMEDD through RLMED. The civilian sector has implemented the concepts of supply chain management, focused logistics, and velocity management, and so must the AMEDD. The benefits of cost savings, in-transit visibility of supplies, and timely support of customer demands are real. Through the use of velocity management, lag times between customer orders and delivery of goods are reduced and the accuracy of materiel and information flow from providers to end-users is increased. By incorporating the principles of supply chain management and focused logistics, the AMEDD has already begun its transformation initiatives.

The contributions of the 6th MLMC are proof of the AMEDD's investment in RLMED. COL Kissane, the OTSG Assistant Chief of Staff, Logistics at OTSG has identified these contributions: NSNs for components of medical equipment sets are linked to commercial product codes used by civilian medical suppliers in the MLMC database, a single electronic gateway for FORSCOM Class VIII requisitions is established, visibility of requisitions in the supply chain is increased, and command and control oversight of medical logistics is improved. The dedication of force structure to establish the 6th MLMC, which supports RLMED, illustrates the Army Surgeon General's commitment to transformation in support of the Army's Objective Force.

This study provides an initial look at the FST MES UAs used by FSTs and the need for a process to validate UA components and capture this data for further analysis. The answer to the research question proposed at the outset, do the current UAs for FST MESs, i.e. 0267 and 2267, actually support the real-world requirements of these FSTs?, is 'No.' Documentation of real-world consumption rates of medical supplies at the ATTC has identified shortfalls in the published FST MES UAs. Comparison of the two existing MES FST UAs shows a disparity amongst these listings causing a need for the identification of a single,

comprehensive UA. The most recent MES FST UA, UA 2267, presents a smaller footprint on today's battlefield, but there is room for improvement through periodic reviews and analysis of emerging requirements. Further research must be conducted to continue the process of refining a comprehensive FST MES UA listing. In addition, a process for validating the FST MES UA requirements identified by the ATTC UEL should be established and a schedule for reviewing these requirements should be built.

Key Terms

Allowance: amount of medical supply item(s) that an Army unit is authorized per the unit's Table of Distribution and Allowances or Table of Equipment.

Army Trauma Training Center (ATTC): A program established by the Army Medical Department at the Ryder Trauma Center in Miami, Florida, whose mission is to ensure the clinical readiness of the Army's Forward Surgical Teams. The program's curriculum includes a rotation through the Ryder Trauma Center by FSTs with hands-on, real-world patient care of trauma wounds.

Associated Support Items of Equipment (ASIOE): These items are not components of the assemblage but are required to support the set. ASIOE is authorized separately on the unit's authorization document.

Class VIII: One of the ten classes of supply within the Army logistics system that includes medical materiel, including medical-peculiar repair parts and blood products.

Combat Service Support (CSS): Those operations in the Army dealing with logistical and personnel functions

Component Code (COMPO): A one position code used to identify Army status of each organization. (COMPO 1- Active Army, COMPO 2 – Army National Guard, and COMPO 3 – US Army Reserve).

Deployable Medical System (DEPMEDS): DEPMEDS is a standard DoD modular medical and dental materiel sets that are configured into hospitals for use in a wartime theater of operations

Defense Supply Center (DSCP): DSCP is a global logistics supply chain integrator providing a seamless supply system that can be utilized in both peace and wartime operations. DSCP supplies and manages over $7.66 billion worth of food, clothing and textiles, pharmaceuticals, medical supplies, general and industrial items in support of America's warfighters worldwide and their eligible dependents.

Directorate of Combat Doctrine and Developments (DCDD): An organizational element of the Army Medical Department whose

function is to develop concepts, organizations, materiel, and doctrine for combat health support to Army operations across the operational continuum.

Division Medical Supply Office (DMSO): The DMSO is responsible for supporting all elements of the division it is assigned to with expendable and durable medical supplies. This office is also responsible of medical equipment maintenance to all elements of the division. It also provides technical assistance to divisional units and information required in requisitioning medical material.

Doctrine, Training, Leader development, Organization, Materiel and Soldier Support (DTLOMS): An investment strategy by which operational capabilities are analyzed. The goal of this analysis is to determine the most effective, timely and least costly means to achieve the future operational capability. The DTLOMS domains are an ordered progression from the least expensive change (Doctrine) to the most expensive change (Soldier) that is needed to produce an operational capability.

Electronic Catalog (ECAT): ECAT is a platform on which different commodities/catalogs can reside and by using web based ordering, customers can log on to the Internet and research and order many different types of materials. Due to the nature of the software, modifications needed to fit DSCP's and customer's ever-changing needs are easily accomplished.

Footprint: A unit's footprint is the physical space that a unit/operation occupies.

Forward Surgical Team (FST): Forward Surgical Teams perform urgent, initial surgery far-forward on the battlefield enabling patients to withstand further evacuation. Types of patients handled by the FST include the following: major chest and/or abdominal wounds, continuing hemorrhage, severe shock, wounds causing airway compromise or respiratory distress, acutely deteriorating level of consciousness with closed head wounds. These 20-person units are organized into four functional areas: triage-trauma management, surgery, recovery and administration/ operations.

Golden Hour: This term was coined by 1LT R. Adams Cowley, an Army surgeon just after World War II in Europe, and refers to what he called the "golden hour" (i.e. 60

minutes) immediately following a serious injury during which prompt and coordinated medical treatment can save lives.

Joint Trauma Training Center (JTTC): Established by the Surgeons General from the Army, Navy, and Air Force the JTTC at Ben Taub Hospital in Houston, Texas, this program served as the predecessor to the ATTC. The JTTC's mission was to provide Military Trauma Teams with the high volume, real trauma treatment experience that can only be achieved at an inner-city, Level 1 Trauma Center to enhance combat trauma skills and medical readiness.

Line Item Number (LIN): a 6-digit, alphanumeric code that uniquely identifies nonexpendable items of supplies. A nonexpendable item is an item of Army property that requires property book accountability after issue.

Medical Equipment Set (MES): a set consisting of a grouping of medical and non-medical items under a single national stock number that is managed by the Army Medical Department and used by the Army. These assemblages are identified by a four-character numeric unit assemblage number (i.e. code).

Medical Logistics Management Center (MLMC): The MLMC provides management over the Class VIII commodity and medical maintenance within the area of operation using split-based operations. The MLMC base remains in CONUS while deploying a support team into the area of operation, linking the strategic level to the operational level of logistics. The support team also links Class VIII management with the distribution system within the AO with a distribution section co-locating with the corps support operations section of the corps support command or theater support command.

Medical Materiel Set (MMS): An MMS consists of a grouping of medical and non-medical items under a single stock number used to compose the DEPMEDS. These assemblages are identified by a four-character UA number. The first character for these specific sets is an alpha character. The alpha character determines the specific UA fielded to a unit. DEPMEDS is a multi-service managed system with components approved by multi-service concurrence.

National Stock Number (NSN): The NSN consists of a four-digit Federal Supply Class (FSC) code number plus a nine-digit National Item Identification Number (NIIN). The U.S. Department of Defense uses National Supply Numbers (NSN's) to uniquely and permanently identify items that it purchases.

Nomenclature: standardized description of an item used by the military.

Potency and Dated Items (P&Ds): P&Ds are those medical supply items that half a shelf life identified by the manufacturer that determines the expiration date of the medical item. After this date, the efficacy of the medical supply item cannot be guaranteed by the manufacturer.

Reach Logistics Medical (RLMED): operational positioning and efficient/effective use of available combat service support assets and capabilities from global resources to the soldier in the field to conduct full spectrum operations.

Sets, Kits, and Outfits (SKOs): SKOs are assemblages of components in a container (pouch, box, chest, van, trailer, or shelter) primarily designed to accomplish a specific mission. SKOs are identified as a single item of supply with a unit of issue of set, kit or outfit.

Single Stock Fund (SSF): SSF is an Army logistics business process reengineering initiative to integrate the way Secondary Items (replacement assemblies, repair parts, and consumables) are budgeted for, acquired, managed, stored, stocked, issued, redistributed, and disposed of.

Single Integrated Medical Logistics Manager (SIMLM): The Army serves in many theaters as the SIMLM for the Tri-Services and provides wholesale medical supply and materiel management. The concept is the utilization of a single manager for medical logistics and is designed to improve support of customer demands, increase fill rates through decreased order ship time (the time between ordering and item and the shipment of that item), rotate potency and dated items, and increase readiness through total theater visibility of Class VIII materiel to best effect mission accomplishment.

Supply Chain: The supply chain concept is concerned with the flow of products and information between supply chain member organizations (procurement of materials, transformation of materials into finished product, and distribution of that product to end customers). The implementation of this concept enables organizations to reduce inventory and costs, add product value, extend resources, accelerate time to market, and retain customers. Every step in the process, from identifying a customer need to final consumption, is an opportunity to save money, extend longevity, and enhance the effectiveness of goods and services.

Unauthorized Equipment Listing (UEL): a listing of those items identified during a FST's rotation through the ATTC as being essential to providing trauma treatment that are not documented in the current FST MES UAs. They are shortfalls of the current UAs based upon real-world medical supply needs seen by FSTs rotating through the ATTC.

Unit Assemblage (UA): The combining of two or more medical supply items into a larger, functional set that increases its total value. These are the components of medical equipment sets.

Unit Assemblage Code (UAC): A four-character numeric code that uniquely identifies a medical equipment set.

Unit of Issue (UI): a two-character code that identifies the way that a supply item is packaged. Common UIs are: each (EA), box (BX), bottle (BT) tube (TU), vial (VI), jar (JR), package (PG), carton (CN), hundred (HD), spool (SL), dozen (DZ), set (SE), pair (PR), and roll (RO).

Velocity Management: Velocity management views the logistics system as a set of interlinked processes, i.e. a supply chain, that delivers products and services to customers. It seeks to improve both the speed and the accuracy with which materials and information flow from providers to users. The improved speed and accuracy reduce the need for massive stockpiles of resources.

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Appendix A

Unit Assemblage Code (UAC)	National Stock Number	MES	LIN
0267	6545-01-413-1322	FST	M45375

	National Stock Number (NSN)		Nomenclature	Unit of Issue	Estimated Price	Allowance
1	4020	002402146	CORD FIBROUS 2100'	SL	$105.58	1
2	4110	013889220	REFRIGERATOR SOLID ST	EA	$12,332.70	1
3	4720	013452256	TUBING NONMETALLIC50'	RO	$22.41	2
4	5120	000974136	WRENCH BOX 4.937"L	EA	$5.49	1
5	6110	012510402	DISTRIBUTION BOX	EA	$1,465.12	2
6	6110	012518157	CONVENIENCE OUTLET	EA	$101.35	4
7	6135	008357210	BATTERY NONREC1.5V12S	PG	$9.84	4
8	6135	009857845	BATTERY NONRECHARGE	PG	$7.52	1
9	6135	009857846	BATTERY NONRECHARGE12	PG	$8.89	1
10	6230	001255528	FLASHLIGHT 3VOLT 12S	PG	$2.22	2
11	6230	002648261	FLASHLIGHT 3VOLT DC	EA	$4.94	10
12	6230	012422016	LIGHT SET	SE	$1,184.24	2
13	6505	000236481	ISOPROTERENOL 15 ML	PG	$26.94	2
14	6505	000636197	LIDOCAINE HCL SOL	BT	$1.26	1
15	6505	000797867	NALOXONE HCL INJ 10S	BX	$4.85	3
16	6505	001049320	PHENYLEPHRINE HCL 25S	BX	$11.80	2
17	6505	001325181	OXYGEN USP 95 GAL	EA	$140.70	8
18	6505	001334449	EPINEPHRINE INJ1ML10S	PG	$19.52	2
19	6505	001375891	DIAZEPAM INJ 2ML 10S	PG	$12.57	2
20	6505	001394512	LIDOCAINE HCL INJ 10S	PG	$9.77	1
21	6505	001394548	CALCIUM CHLORIDE 10%	PG	$27.27	1
22	6505	001487096	POVIDONE-IOD OIN 144S	PG	$61.04	1
23	6505	001487177	DIPHENHYDRAMINE 1ML10	BX	$12.82	2
24	6505	001490113	MORPHINE 10MG 1ML 10S	PG	$6.08	20
25	6505	001507622	LUBRICANT OPHTH1/8 OZ	TU	$2.64	20
26	6505	001538809	LUBRICANT SURG 4 OZ	TU	$3.57	7
27	6505	001539740	HEPARIN SOD INJ 10 ML	VI	$0.54	2
28	6505	001816279	EDROPHONIUM CHL INJ10	PG	$17.50	2
29	6505	002165370	SOD BICAR INJ50ML 10S	PG	$18.24	1
30	6505	002617257	BENZOIN TINCTURE 1 PT	CN	$6.92	1
31	6505	004917557	POVIDONE-IODINE CLEA	BT	$1.00	10
32	6505	005434048	WATER INJECT 5 ML 25S	PG	$9.76	1
33	6505	005598456	SODIUM CHL INJ 5ML25S	BX	$6.39	2
34	6505	005607331	SILVER SULFAD CR400GM	JR	$14.54	5
35	6505	005986116	LIDOCAINE 1.0% 50 ML	BT	$1.05	3
36	6505	006807352	PROMETHAZINE HCL 25S	BX	$9.70	1
37	6505	006855189	TETANUS TOXOID 5 ML	VI	$29.99	3
38	6505	006895522	ISOPROTERENOL HCL INJ	PG	$33.29	1
39	6505	007540374	POVI-IODI TOP SOL 1GL	BT	$8.18	1

40	6505	007542547	ATROPINE SULF INJ20ML	VI	$4.28	5
41	6505	008542504	HALOTHANE USP 125 ML	BT	$12.51	8
42	6505	008902172	PEN G POT 20000000UN	BT	$4.62	22
43	6505	009173709	DOXAPRAM HCL 20MG20ML	BT	$16.44	1
44	6505	009515533	HYDROCOR SOD SUC250MG	VI	$1.04	10
45	6505	009586325	NEOSTIGMINE MET 10 ML	VI	$0.56	10
46	6505	009635355	DEXAMETHASONE INJ 5CC	VI	$0.46	8
47	6505	009947224	POVIDONE-IOD SOL 1GAL	BT	$31.79	1
48	6505	010035343	THIOPNTL SOD INJ5GM25	PG	$431.37	2
49	6505	010100832	CEFAZOLIN SODIUM 1GM	PG	$35.90	40
50	6505	010139941	TERBUTALINE SULF IN10	PG	$8.49	2
51	6505	010197627	GLYCOPYRROLATE 20 ML	BT	$1.10	2
52	6505	010268403	PHYSOSTIGMINE INJ 12S	PG	$32.96	4
53	6505	010282260	SUCCINYCHO CHLOR 12S	PG	$134.27	3
54	6505	010532634	SODIUM BICARB INJ 25S	BX	$48.04	1
55	6505	010731316	FENTANYL CITRATE INJ	PG	$6.51	10
56	6505	010750678	SODIUM CHLORIDE 12S	BX	$9.88	2
57	6505	010750679	WATER STER 1000ML 12S	PG	$11.34	1
58	6505	010932384	EPINEPHRIN INJ10ML10S	PG	$19.83	1
59	6505	011007984	IOTHALA MEG INJ30ML50	PG	$46.88	1
60	6505	011040399	DROPERIDOL INJ 2ML10S	PG	$6.40	1
61	6505	011179832	ISOFLURANE 100 ML	BT	$19.75	6
62	6505	011231060	DOPAMINE HCL IN10ML10	PG	$89.96	2
63	6505	011253253	MANNITOL INJ 50ML 25S	PG	$26.38	1
64	6505	011264915	LIDOCAINE HCL&DEX INJ	PG	$47.71	1
65	6505	011277946	BUPIVACAINE HCL30ML10	PG	$13.75	1
66	6505	011313855	VERAPAMIL HCL INJ 2ML	CO	$2.32	20
67	6505	011533733	KETAMINE HCL INJ5ML10	PG	$110.68	4
68	6505	011562170	CLEANER HAND GERMI8OZ	BT	$1.80	4
69	6505	011771982	CLINDAMYCIN INJ 25S	PG	$47.10	2
70	6505	012052398	METOCLOPRAMIDE INJ 6S	PG	$75.63	1
71	6505	012085955	RANITIDINE INJ 2ML10S	PG	$14.94	2
72	6505	012139514	GENTAMICIN SULF2ML25S	PG	$7.09	3
73	6505	012148774	FUROSEMIDE INJ 4ML 10	PG	$11.74	8
74	6505	012192760	CEFTRIAXONE SOD INJ10	PG	$207.25	2
75	6505	012396963	DANTROLENE SOD 20MG6S	PG	$365.90	8
76	6505	012444736	MIDAZOLAM HCL INJ 10S	PG	$63.01	3
77	6505	012447982	LABETALOL HCL INJ20ML	VI	$9.70	2
78	6505	012580983	VECURONIUM BROMIDE10S	PG	$142.73	4
79	6505	012695637	AMPICILLIN SOD 1GM10S	PG	$6.81	20
80	6505	012752568	AMPICILLIN &SULBACTAM	PG	$143.41	2
81	6505	012811247	HETASTARCH IN SOD 12S	PG	$295.14	1
82	6505	013308925	SODIUM CHLORIDE INJ84	PG	$58.52	1
83	6505	013370320	CIPROFLOXACIN 40ML60S	PG	$273.40	2
84	6505	014163228	ISOPROPYL ALCOHOL USP	BT	$5.15	4
85	6505	014554200	LIDOCAINE AND EPINEPH	VI	$1.39	10
86	6510	000583047	BANDAGE GAU4-1/2"100S	PG	$98.55	1

87	6510	001110708	PAD NONADH4.125X3.125	PG	$9.28	1
88	6510	002006000	BAND GAUZE 10YSX4"12	PG	$20.33	5
89	6510	002007013	BAND GAUZE 5YD X.875"	RO	$3.93	1
90	6510	002011755	BANDAGE 37X37X52IN	EA	$2.48	30
91	6510	002020800	GAUZE 18X3" 12S	PG	$8.54	1
92	6510	005593159	STOCKINET 25YDX4" 25S	RO	$9.91	1
93	6510	007219808	SPONGE SURG 4X4" 1200	PG	$70.54	1
94	6510	007241017	BANDAGE GAUZE 180"L	PG	$48.07	1
95	6510	007822700	SPONGE SURG 2X2" 200S	PG	$3.30	1
96	6510	007863736	PAD ISOPROPYL ALCOHOL	PG	$4.59	3
97	6510	008172634	BAND FELT 4INX4YD 72S	PG	$52.47	1
98	6510	009137909	BAND ADH .75X3 IN300S	BX	$8.35	3
99	6510	009268882	ADHESIVE TAPE SURG 1"	PG	$14.05	1
100	6510	009268884	ADHESIVE TAPE SURG 3"	PG	$24.28	6
101	6510	009355821	BANDAGE ELAS 4.5YDX3"	PG	$15.13	1
102	6510	009355823	BANDAGE ELAS 6"X4.5YD	PG	$21.15	1
103	6510	010100307	PAD POV-IOD IMPRE100S	PG	$8.25	3
104	6510	010854742	CELLULOSE 8X4"N 24S	PG	$1,279.32	2
105	6510	011518145	SPONGE SUR4X8IN1000S	PG	$167.42	1
106	6510	011532857	DRESSING BURN24X36"15	PG	$90.86	2
107	6510	011642724	SPONGE LAPAR 8X36"100	PG	$55.56	3
108	6510	011966204	BNDGE ORTHO 3INX4YD10	PG	$47.20	2
109	6510	013085343	BANDAGE CAST POLYUR	PG	$131.10	1
110	6510	013366180	COLLAGEN HEMO 12S	PG	$471.31	1
111	6510	014081920	DRESSING CHEST WOUND	PG	$100.71	1
112	6515	000653181	FORCEPS HEMO MIXTER	EA	$23.48	8
113	6515	001048694	CATHETER URE 16FR 12S	BX	$16.02	1
114	6515	001050653	TUBE TRACH 4.2MM 10S	PG	$18.68	1
115	6515	001050664	TUBE TRACH 4MM ID 10S	PG	$15.30	1
116	6515	001050707	TUBE TRACH 5MM ID 10S	PG	$19.20	1
117	6515	001050759	TUBE TRACH 8MM ID 10S	PG	$27.91	4
118	6515	001150032	INTRAVENOUS INJ SE48S	PG	$63.99	2
119	6515	001160533	CUFF SPHYGMOMAN ADULT	EA	$37.88	1
120	6515	001376511	ELECTROSURGICAL APPAR	EA	$4,565.70	2
121	6515	001395916	SUTURE ABS SZ 3-0 36S	PG	$73.09	2
122	6515	001490104	CATHETERIZATION KIT	EA	$8.95	30
123	6515	001491405	THERMOMETER CLIN ORAL	EA	$1.00	2
124	6515	001491407	THERMOMETER RECTAL	EA	$0.82	4
125	6515	001855158	IV INJ SET NON-VEN50S	PG	$70.72	1
126	6515	001859482	FLASHLIGHT EYE 3V	EA	$21.28	10
127	6515	002260251	SUTURE NONABS 4-0 12S	PG	$78.25	2
128	6515	002277897	SUTURE NONABS 3-0 36S	PG	$99.04	2
129	6515	002867038	SUTURE NONABS 5-0 36S	PG	$50.55	2
130	6515	002901938	SUTURE ABS SZ 3-0 36S	PG	$47.93	2
131	6515	002998710	ADAPTER R ANG ELBOW	EA	$23.88	3
132	6515	002998712	STYLET CATH-TU COPPER	EA	$15.79	2
133	6515	002998736	HOLDER SUTURE NDL 6"	EA	$15.68	4

134	6515	003000600	ADAPTER CATH-LUER SYR	EA	$8.60	1
135	6515	003123500	DRILL HAND BONE .156"	EA	$186.35	1
136	6515	003124260	EXTENSION BONE BIT4.1	EA	$23.78	2
137	6515	003204600	FORCEPS TOWEL 5.25"LG	EA	$17.51	18
138	6515	003208500	CONTRACTOR RIB BAILEY	EA	$51.63	1
139	6515	003225500	CURETTE MASTOID SZ1	EA	$8.65	1
140	6515	003225600	CURETTE MASTOID SZ3	EA	$34.27	2
141	6515	003225700	CURETTE MASTOID SZ5	EA	$38.89	2
142	6515	003245500	DEPRESSOR TONGUE 100S	PG	$2.34	3
143	6515	003254400	DILATOR TRACHEAL 5.5"	EA	$15.91	1
144	6515	003276100	ELEVATOR DURA FRAZIER	EA	$22.50	1
145	6515	003279400	ELEVATOR SET LARGE	SE	$68.81	1
146	6515	003311300	FORCEPS BONE 10.25"LG	EA	$209.30	2
147	6515	003313600	RONGEUR 8.75"LG ANG	EA	$239.32	1
148	6515	003314200	RONGEUR HORSLEY 5.75"	EA	$126.11	1
149	6515	003315400	RONGEUR STILLE-LUER9"	EA	$468.69	1
150	6515	003323300	FORCEPS TRACH TU ADL	EA	$9.01	4
151	6515	003326200	FORCEPS HEMO RAINEY	EA	$66.73	3
152	6515	003333600	FORCEPS DRESSING 5.5"	EA	$10.99	6
153	6515	003343800	FORCEPS HEMO KELLY	EA	$4.55	24
154	6515	003344100	FORCEPS HEMO CURVED	EA	$21.49	8
155	6515	003344300	FORCEPS HEMO 6-6.50"	EA	$13.99	12
156	6515	003345600	FORCEPS HEMO STR 5"LG	EA	$6.27	8
157	6515	003347500	FORCEPS HEMO 7.25"LG	EA	$17.44	12
158	6515	003349500	FORCEPS HEMO 9" PEAN	EA	$12.88	8
159	6515	003351900	FORCEPS INTESTINAL8.7	EA	$66.02	4
160	6515	003352900	FORCEPS BABCOCK 7.75"	EA	$17.06	8
161	6515	003353200	FORCEPS INTEST8.7-9.2	EA	$20.91	4
162	6515	003353500	FORCEPS TISSUE 7.5"LG	EA	$22.52	4
163	6515	003355800	FORCEPS KIDNEY9.2-9.5	EA	$163.02	4
164	6515	003359100	FORCEPS LUNG 8"LG CRS	EA	$133.85	4
165	6515	003377800	FORCEPS TISSUE 4.5"LG	EA	$51.96	4
166	6515	003380300	FORCEPS TISSUE 6" LG	EA	$39.80	4
167	6515	003382900	FORCEPS HEMO 7.25" LG	EA	$23.99	8
168	6515	003406700	HAMMER REFLEX TESTING	EA	$2.20	1
169	6515	003421400	HOOK BRAIN DISSECT 8"	EA	$23.07	2
170	6515	003435800	KNIFE AMPUTATING10.5"	EA	$139.45	1
171	6515	003460480	LARYNGOSCOPE CHILD SZ	EA	$89.46	3
172	6515	003553300	PERIOSTEOTOME 8.25"	EA	$111.89	2
173	6515	003603490	RETRACTOR ABDOM 1X12"	EA	$42.66	2
174	6515	003603530	RETRACTOR ABDOM 2X12"	EA	$50.06	2
175	6515	003603850	RETRACTOR SET ABDOMIN	SE	$26.78	2
176	6515	003604910	RETRACTOR ABDOM LARGE	EA	$984.76	2
177	6515	003609200	RETRACTOR SET OPER	SE	$9.20	2
178	6515	003610350	RETRACTOR GEN OPER8.5	EA	$41.90	4
179	6515	003614850	RETRACTOR PERINEAL6.5	EA	$42.88	2
180	6515	003617250	RETRACTOR RIB MEDIUM	EA	$117.30	2

181	6515	003618980	RETRACTOR TRACH3PRONG	EA	$7.23	2
182	6515	003631100	SAW AMPUTATING 8"LG	EA	$52.40	1
183	6515	003632300	CONDUCTOR BONE CUTTNG	EA	$16.36	2
184	6515	003632400	HANDLE BONE CUTTING	PR	$21.96	1
185	6515	003632700	SAW BONE CUTTING 20IN	EA	$10.09	2
186	6515	003634100	SAW FINGER RING 6"LG	EA	$20.47	1
187	6515	003634150	BLADE FINGER RING SAW	EA	$12.92	1
188	6515	003638840	SCISSORS BANDAGE SZ 2	EA	$31.18	6
189	6515	003640520	SCISSORS MAYO 6.5-7"	EA	$20.54	6
190	6515	003640560	SCISSORS MAYO CURVED	EA	$40.82	6
191	6515	003640920	SCISSORS MAYO 6.50-7"	EA	$18.97	4
192	6515	003644600	SCISSORS IRIS 4" LG	EA	$16.07	4
193	6515	003746900	ELEVATOR 9X.312"	EA	$41.65	1
194	6515	003830565	TOURNIQUET 42.5X1.531	EA	$5.91	4
195	6515	003866600	CANNULA ABDOMINAL23FR	EA	$17.37	4
196	6515	003869708	HARNESS HEAD ANES	EA	$43.09	2
197	6515	004205749	SOUND CHAM&CUFF ADULT	EA	$74.40	2
198	6515	004312890	LANCET 1.25X.375"100S	PG	$2.69	1
199	6515	004588411	CATHETER&CON TRAC 50S	PG	$85.93	1
200	6515	004588416	CATHETER&CON TRAC50S	PG	$18.10	1
201	6515	004627348	SYRINGE HYPO 3ML 100S	PG	$66.65	1
202	6515	004822833	SUTURE ABS SZ 4-0 36S	PG	$75.19	2
203	6515	005152113	BRACE BIT BONE 9.75"	EA	$194.30	2
204	6515	005152114	BUR CRANIAL 9MM DIA	EA	$65.86	4
205	6515	005152115	BUR CRANIAL 16MM DIA	EA	$25.94	4
206	6515	005152116	DRILL FLAT CRANIAL	EA	$118.24	2
207	6515	005158679	STARTER KIT OSTO 3.5"	EA	$29.92	1
208	6515	005507199	OTOSCOPE&OPHTH SCOPE	SE	$207.69	2
209	6515	005842893	INFUSOR BLD COL-DISPN	EA	$129.94	6
210	6515	005843738	FORCEPS TISSUE 4.5"LG	EA	$46.61	4
211	6515	006165052	LARYNGOSCOP INF-CH-AD	EA	$94.60	3
212	6515	006555751	NEEDLE HYPO 25GA 100S	PG	$3.75	1
213	6515	006645398	CHISEL BONE 8.125"LG	EA	$50.55	1
214	6515	006645399	CHISEL BONE 8.125"LG	EA	$50.55	1
215	6515	006645400	CHISEL BONE 8.125"LG	EA	$45.25	1
216	6515	006647853	RETRACTOR SE GEN OPER	SE	$57.32	2
217	6515	006878052	AIRWAY PHARY 100MM	EA	$4.58	10
218	6515	006878054	FORCEPS HEMO5.5"CRILE	EA	$13.77	30
219	6515	006903195	CLAMP ARTERY 12.25"LG	EA	$197.68	2
220	6515	006903196	CLAMP ARTERY 11.75"LG	EA	$76.50	1
221	6515	006903197	CLAMP ARTERY 7.5"LG	EA	$148.56	1
222	6515	006903198	HOLDER SUTURE NDL 7"	EA	$60.80	4
223	6515	006903200	HOLDER SUTURE NDL 9"	EA	$103.10	4
224	6515	006903202	HOLDER SUTURE NDL 12"	EA	$53.55	4
225	6515	006903208	FORCEPS TISSUE 7.75"	EA	$17.60	4
226	6515	006903209	FORCEPS TISSUE 9.5"LG	EA	$27.63	4
227	6515	006903212	CLAMP ARTERY 65MM JAW	EA	$198.21	2

228	6515	006903213	CLAMP ARTERY 7"LG	EA	$123.93	2
229	6515	006903215	CLAMP ARTERY 9CM LG	EA	$111.69	2
230	6515	006903216	CLAMP ARTERY 9CM LG	EA	$41.11	2
231	6515	006903223	SCISSORS GEN SURG 7.5	EA	$59.06	2
232	6515	006903224	SCISSORS GEN SURG7.5"	EA	$76.84	2
233	6515	006903225	CLAMP ARTERY 70MM JAW	EA	$72.22	1
234	6515	006903227	CLAMP ARTERY 10.5"LG	EA	$74.63	1
235	6515	006903238	CLAMP ARTERY 30MM JAW	EA	$90.21	1
236	6515	007257843	CONNECTOR TU A14 50S	PG	$53.88	1
237	6515	007540412	SYRINGE HYPO 10ML100S	PG	$18.99	1
238	6515	007542834	NEEDLE HYPO 18GA 100S	PG	$6.63	1
239	6515	007542835	NEEDLE HYPO 22GA 100S	PG	$5.18	1
240	6515	007542836	NEEDLE HYPO 20GA 100S	PG	$3.67	1
241	6515	007637366	TUBE DRAIN 32FR 10S	PG	$25.98	1
242	6515	007822621	MASK SURG NONGLARE50S	PG	$6.67	3
243	6515	008648864	STOPCOCK IV THERAPY50	PG	$111.90	2
244	6515	008669073	TUBE DRAIN 36FR 10S	PG	$17.14	2
245	6515	008801833	ADAPTER Y-PIECE TRACH	EA	$34.98	3
246	6515	008901681	CLAMP ARTERY 6.5CM LG	EA	$39.09	2
247	6515	008901682	CLAMP ARTERY 6.5CM LG	EA	$39.09	2
248	6515	008901683	CLAMP VENA CAVA 10"LG	EA	$192.78	2
249	6515	009051473	APPLICATOR DISP 2000S	PG	$19.40	1
250	6515	009171912	TUBE NASOGASTRIC 50S	PG	$113.00	1
251	6515	009269150	VALVE SURG DRAIN 10S	PG	$189.91	2
252	6515	009269193	RETRACTOR MASTOID6.5"	EA	$48.21	8
253	6515	009269201	CONNECTOR TUBING 3.5"	PG	$15.11	1
254	6515	009354088	STETHOSCOPE ADULT SZ	EA	$5.91	9
255	6515	009582232	AIRWAY PHARYN 80MM12S	BX	$3.20	2
256	6515	009786133	KNIFE GEN SZ15 100S	PG	$11.74	1
257	6515	009856988	SUTURE NONABS 1-0 12S	PG	$17.67	4
258	6515	010085209	CATHETER&NDL 14GA 50S	PG	$79.96	1
259	6515	010087107	SUTURE ABS SZ 1-0 36S	PG	$106.30	5
260	6515	010390164	CASE SPHYGMOMANOMETER	EA	$4.84	6
261	6515	010394884	SPHYGMOMANOMETER	EA	$12.41	6
262	6515	010437015	SUTURE NONABS 2-0 12S	PG	$211.00	2
263	6515	010457158	KNIFE STERNUM 10"LG	EA	$68.68	1
264	6515	010500207	CATHETER&NDL D12 50S	PG	$43.61	1
265	6515	010604280	SCISSORS GEN 5.75" LG	EA	$20.38	2
266	6515	010715561	STAPLER SURGICAL 6S	PG	$80.61	2
267	6515	010747812	CANNULA LARYNGEAL 50S	PG	$34.99	1
268	6515	010758288	SUTURE NONABS 2-0 36S	PG	$101.85	4
269	6515	010759809	EVACUATOR WOUND 400ML	PG	$304.77	2
270	6515	010764713	TROUSERS ANTI-SHOCK	EA	$380.40	1
271	6515	010858035	ELECTRODE GEL 250GM12	PG	$20.88	1
272	6515	010895668	SCISSORS GEN SURG 11"	EA	$57.64	4
273	6515	010920041	SYRINGE HYPO140ML 20S	PG	$51.73	2
274	6515	010960217	HANDLE&ELECTRODE 10S	PG	$255.29	2

275	6515	010985770	STETHOSCOPE 24FR 20S	PG	$124.53	2
276	6515	011011949	TUBING SURG 144" 20S	PG	$40.82	1
277	6515	011039995	NEEDLE HYPO 25GA 25S	PG	$28.69	2
278	6515	011039996	NEEDLE HYPO 22GA 25S	PG	$30.36	2
279	6515	011067648	CANISTER 1500CC 100S	PG	$186.17	1
280	6515	011190017	PROBE GEN OPER 8" LG	EA	$1.79	2
281	6515	011192930	PLATE GROUNDING 100S	PG	$143.55	1
282	6515	011250121	AIRWAY NASOPHARYNGEAL	PG	$97.45	1
283	6515	011264031	CUFF SPHYGMOMAN CHILD	EA	$18.78	2
284	6515	011281407	BLOOD RECIPIENT 48S	PG	$176.13	1
285	6515	011346649	RETRACTOR RIB BURFORD	EA	$795.03	2
286	6515	011397576	CANNULA SUCTION 11 FR	EA	$44.25	1
287	6515	011397642	RETRACTOR STERNUM	EA	$122.77	2
288	6515	011397990	KEY DRILL CHUCK T-STY	EA	$14.37	2
289	6515	011398190	CLAMP COARCTATION STR	EA	$44.81	2
290	6515	011398191	CLAMP COARCTATION22.5	EA	$44.81	2
291	6515	011398213	FORCEPS HEMO 5.5" LG	EA	$29.65	8
292	6515	011398267	RASP BONE PUTTI STYLE	EA	$194.35	1
293	6515	011398938	FORCEPS THORACIC 9"LG	EA	$59.97	6
294	6515	011398939	FORCEPS THORACIC 11"	EA	$154.86	2
295	6515	011398941	FORCEPS TISSUE 12" LG	EA	$44.27	4
296	6515	011398996	ELEVATOR PERIOST .50"	EA	$30.79	1
297	6515	011399084	CLIP HEMO MEDIUM 216S	PG	$141.03	1
298	6515	011399104	CLIP HEMOSTATIC 108S	PG	$108.98	1
299	6515	011399109	SUTURE NONABS SZ0 36S	PG	$23.55	5
300	6515	011405343	MASK REBREATHING 50S	PG	$93.25	1
301	6515	011405344	TUBING BREATHING 100'	EA	$13.90	1
302	6515	011432880	SUTURE ABS 2-0 36S	PG	$61.10	2
303	6515	011467794	TOURNIQUET ADULT14X1"	EA	$3.98	8
304	6515	011470203	TUBE SUCT YANKAUER50S	PG	$65.88	1
305	6515	011487007	CHEST PC STETH CHILD	EA	$13.01	2
306	6515	011498097	KNIFE GEN SZ10 100S	PG	$73.98	1
307	6515	011498840	GLOVES SURGEONS SZ7	PG	$28.45	2
308	6515	011498841	GLOVES SURG SZ7.5 50S	PG	$26.42	2
309	6515	011498842	GLOVES SURG SZ 8 50S	PG	$15.20	2
310	6515	011507842	SUPPORT CERVICAL22X8"	EA	$6.54	2
311	6515	011511822	SCISSORS WIRE 4.75"LG	EA	$24.32	2
312	6515	011534840	CUFF SPHYGMOMANOMETER	EA	$10.61	1
313	6515	011535084	HUMIDIFER OXYGEN 50S	PG	$56.00	1
314	6515	011535584	MASK ORONASAL CHILD50	PG	$100.23	1
315	6515	011535721	SUTURE ABS SZ0 GEN36S	PG	$89.16	1
316	6515	011562458	DETERGENT INSTR 5 LB	CN	$15.37	1
317	6515	011562603	CLIP HEMO 2.5MM LG36S	PG	$129.01	1
318	6515	011563011	ELECTRODE ELECTROS40S	PG	$238.43	2
319	6515	011602537	ELECTRODE EKG ADH 30S	PG	$40.94	3
320	6515	011621962	SUTURE ABS SZ 1 1DZ	DZ	$112.93	2
321	6515	011643750	SCISSORS VASCULAR 8"	EA	$29.10	2

322	6515	011646288	TUBE SUCTION CRS 15FR	EA	$137.25	6
323	6515	011648883	FORCEPS BONE 9.75" LG	EA	$190.23	2
324	6515	011648884	HOLDER SUTURE NDL 10"	EA	$54.78	4
325	6515	011651133	SUPPORT TRACHEAL TUBE	EA	$20.55	2
326	6515	011676637	AIRWAY NASOPHARYNGEAL	PG	$59.23	1
327	6515	011676670	FORCEPS HEMO 7.50" LG	EA	$117.02	2
328	6515	011676672	FORCEPS HEMO15D5.75"M	EA	$108.50	2
329	6515	011676675	FORCEPS HEMO LARGE	EA	$71.05	2
330	6515	011677287	SUCTION APPAR120/230V	EA	$3,646.10	2
331	6515	012104484	CLIP HEMO RANEY 12S	PG	$17.28	4
332	6515	012192756	DRAIN SURG WND 10MM10	PG	$52.33	1
333	6515	012254681	SPLINT UNIV 36X4.5"12	PG	$109.40	1
334	6515	012273563	LIGHT HEAD SURGICAL	EA	$409.50	4
335	6515	012321857	LIGATURE UMBILICAL24S	PG	$26.83	1
336	6515	012331888	SUTURE ABS SZ0 27"12S	PG	$42.78	2
337	6515	012340253	MALLET BONE SURG 2 LB	EA	$165.08	1
338	6515	012346838	APPLICATOR 6" 100S	PG	$0.66	3
339	6515	012370530	SUTURE ABS SZ 4-0 3DZ	DZ	$30.70	3
340	6515	012451871	SYRINGE CARTRIDGE 3"	EA	$6.06	6
341	6515	012478925	TUBE EXT INJ 30" 48S	PG	$47.26	1
342	6515	012508936	SPLINT TRACTION-EXTRI	EA	$579.67	1
343	6515	012513744	SUTURE ABS SZ2-0 24S	PG	$150.16	2
344	6515	012591734	SUTURE NONABS 2-0 24S	PG	$106.43	2
345	6515	012648439	DRAINAGE UNIT 72"L 6S	PG	$347.53	3
346	6515	012796450	MONITOR OXY 6.75X3.5"	EA	$711.45	2
347	6515	012830161	RESUSCITATOR INFANT	EA	$280.00	1
348	6515	012848704	SUCTION APPAR TRACH	EA	$1,141.02	10
349	6515	012899813	CATHETER THORACIC 10S	PG	$146.03	1
350	6515	012899820	VAPORIZER ANESTHESIA	EA	$7,434.36	2
351	6515	012931880	NEEDLE SUTURE SZ2 72S	PG	$115.37	1
352	6515	013003530	STIMULATOR PRPHRL NRV	EA	$144.94	2
353	6515	013083963	CATHETER THOR 20FR10S	PG	$170.00	1
354	6515	013110361	INTRODUCER SET CATH10	PG	$187.82	1
355	6515	013139633	KNIFE GENERAL SURG100	PG	$65.55	1
356	6515	013156227	CATHETER/NDL 18GA 50S	PG	$43.92	1
357	6515	013165055	GLOVE PAT MED LGE100S	PG	$6.58	3
358	6515	013194059	IMPLANT ARTERIAL 70CM	EA	$693.00	1
359	6515	013340855	FILTER-AIR ELIMINAT20	PG	$310.00	1
360	6515	013340856	PREFILTER ELEMENT 60S	PG	$225.00	1
361	6515	013386602	RESUSCITATOR HAND OPR	EA	$367.33	8
362	6515	013390628	ADMINISTRATION SET120	PG	$60.51	1
363	6515	013445255	TUBING EXT BLOOD 40S	PG	$158.11	1
364	6515	013446106	BLOOD WARMING SET 20S	PG	$549.00	1
365	6515	013543150	DEFIB/MON RECORDR115V	EA	$18,215.92	2
366	6515	013563892	CANISTER OUTER 1500ML	EA	$6.14	8
367	6515	013632512	TUBE ASSY INHALER 15S	PG	$31.72	5
368	6515	013656206	MASK ORONASAL PED 50S	PG	$109.72	1

369	6515	013705019	BLOOD-FLUID WARMER	EA	$4,696.08	1
370	6515	013724497	TUBING EXT BLOOD 50S	PG	$107.35	1
371	6515	013831052	CONCENTRATOR OXYGEN	EA	$1,111.68	8
372	6515	013879457	HUMIDIFIER HYGROSCOPI	EA	$106.99	16
373	6515	013892071	INFUSION SET 48S	PG	$174.55	1
374	6515	013967366	EMERGENCY SET INJURY	EA	$655.51	4
375	6515	014003847	BLOOD RECOVERY SET 6S	PG	$303.56	1
376	6515	014123099	SYRINGE HYPODERMIC20S	PG	$10.49	6
377	6515	014149280	MONITOR PATIENT VITAL	EA	$21,274.32	2
378	6515	014182346	MONITOR PT VITAL SIGN	EA	$14,794.55	6
379	6515	014396344	CATHETER&NDL UN IV22G	PG	$195.00	1
380	6515	014491016	SHIELD EYE SURG FOX12	PG	$19.71	1
381	6515	014521743	SHEILD EYE2-1/8X2-5/8	PG	$57.60	1
382	6530	000797039	INDICATOR STEAM 250S	PG	$2.55	1
383	6530	001101854	TOWEL PACK SURG 96S	PG	$121.57	4
384	6530	002998069	BOWL SUR SPONGE NEST	EA	$7.51	4
385	6530	006600034	SUPPORT LITTER FOLDNG	PR	$159.80	12
386	6530	007709220	BASIN EMESIS CRS	EA	$14.24	6
387	6530	007710225	BASIN WASH STEEL 9QT	PG	$227.70	1
388	6530	007717025	BEDPAN OVAL SHAPE CRS	EA	$50.75	1
389	6530	007725935	BRUSH SURGICAL SCRUB	EA	$2.00	5
390	6530	007844205	STRAP WEB SEC LOCK OD	EA	$21.26	8
391	6530	007884010	RESTRAINT ST WRI-ANK	SE	$135.00	1
392	6530	007926000	ROD INTRAVENOUS IRRIG	EA	$345.66	10
393	6530	010324089	DRAPE SURG6'X44IN 20S	PG	$48.53	2
394	6530	010422485	URINAL M PAT PLT 50S	PG	$25.98	1
395	6530	010479698	DRAPE SURG PLAS 10S	PG	$32.13	3
396	6530	011190012	SPINBRD LNG18X72X3/4"	EA	$187.25	1
397	6530	011190015	PAD BED LINEN PROT300	PG	$24.74	1
398	6530	011265397	SURGICAL PACK DISP 7S	PG	$94.91	3
399	6530	012422337	TAPE SEAL STER2160X1"	PG	$18.86	1
400	6530	012442776	WRAPPER STER24X24" 6S	PG	$28.38	4
401	6530	012449946	WRAPPER STER 36X36"6S	PG	$49.75	4
402	6530	012779424	DISPOSAL CO2GL CAP 20	PG	$44.00	1
403	6530	013171131	PAD HEATING CHEMICAL	EA	$2.47	10
404	6530	013215592	TABLE OPERATING FIELD	EA	$3,824.20	2
405	6530	013259299	VENTILATOR VOL PRTBLE	EA	$7,631.10	4
406	6530	013344379	BRUSH-SPONGE SURGICAL	PG	$128.47	1
407	6530	013611746	BAG BIOHAZ 48X40"250S	PG	$36.21	1
408	6530	013807309	LITTER FOLDING 91.60"	EA	$271.32	12
409	6530	014170863	TRAY STERILIZATION	EA	$6.86	4
410	6530	014182665	COVER STERILIZATION	EA	$44.25	4
411	6530	014319005	SINK UNIT SURG SCRUB	EA	$1,145.43	2
412	6532	000048055	CAP OPER SURG UNIV100	PG	$17.02	1
413	6532	004056009	SURG PCK GOWN&TOWEL28	PG	$119.54	1
414	6545	002998649	INSERT CAB MED CHEST	EA	$387.18	6
415	6545	009143480	CHEST MED INS SUP NO3	EA	$558.15	24

416	6545	009143500	CHEST MED INS SUP NO5	EA	$778.14	3
417	6545	009143510	CHEST MED INS SUP NO6	EA	$385.86	7
418	6545	009259220	TRAY MED INST&SUPP SE	EA	$130.17	2
419	6545	009266660	CASE HOSP LINENS SML	EA	$43.37	2
420	6545	011571155	LEG MISS CHST FLD#3&5	EA	$79.66	84
421	6545	013825876	CASE MEDICAL INSTRUMT	EA	$85.98	8
422	6550	013384677	TEST STRIPS&COLOR CHA	BT	$42.82	1
423	6640	004314520	GRADUATE LIQ LAB CRS	EA	$81.26	1
424	6640	010689613	TUBE CAPILLARY 500S	PG	$19.22	1
425	6640	010884246	PIPET TRANSFER 500S	PG	$10.85	1
426	6640	012052422	CENTRIFUGE LAB BAT 9V	EA	$1,232.80	1
427	6680	011746276	REGULATOR PRESS GAS	EA	$80.65	1
428	6840	005261129	DISINFECTANT-DET 1GAL	BT	$23.87	1
429	6840	009269117	DISINFECTANT GEN 1GAL	PG	$13.18	2
430	7210	004980512	SHEET BED AQUA 100S	PG	$86.80	1
431	7210	007157985	BLANKET BED WOOL O-G	EA	$55.50	16
432	7210	009356665	BLANKET LIGHT WEIGHT	EA	$6.58	30
433	7210	010132824	WASHCLOTH DISP 1000S	PG	$84.71	2
434	7230	002523394	HOOK SHOWER CURTAIN	BX	$4.45	1
435	7240	000893827	CAN WATER MILITARY	EA	$9.32	10
436	7520	002405503	CLIP BOARD FILE9X17IN	EA	$1.65	12
437	7520	009357135	PEN BALL-POINT BLACK	DZ	$4.83	2
438	7520	012486813	MARKER TUBE TYPE RED	PG	$9.87	1
439	7690	009354118	LABEL 1.5X2.5IN 1000S	RO	$9.26	1
440	8105	011893871	BAG WASTE RECEPTAC250	PG	$101.57	1
441	8120	005508484	YOKE-ADAPTER FLUSH	EA	$26.66	4
442	8415	002228074	APRON PLASTIC DIS100S	HD	$10.41	1
443	8415	014156956	GLOVES HEAT PROTECT	PG	$52.16	1
444	8455	007725345	BRASSARD RED CROSS	EA	$7.82	12
445	9930	013316244	POUCH HUMAN REMAINS	EA	$44.81	12

Note. 445 total items in MES FST with UAC 0267 as of March 1, 2003.

Source:
www.armymedicine.army.mil/usamma/apps/nana_uaweb/index.htm

Unit Assemblage Code (UAC)	National Stock Number	MES	LIN
2267	6545-01-496-4834	FST	N/A

	National Stock Number (NSN)		Nomenclature	Unit of Issue	Estimated Price	Allowance
1	4020	002402146	CORD FIBROUS 2100'	SL	$105.58	1
2	4110	013889220	REFRIGERATOR SOLID ST	EA	$12,332.70	1
3	5120	000974136	WRENCH BOX 4.937"L	EA	$5.49	2
4	6110	012510402	DISTRIBUTION BOX	EA	$1,465.12	2
5	6110	012518157	CONVENIENCE OUTLET	EA	$101.35	4
6	6135	008357210	BATTERY NONREC1.5V12S	PG	$9.84	4
7	6135	009735632	BATTERY NONRECHAR 9V	EA	$5.19	4
8	6135	009857845	BATTERY NONRECHARG	PG	$7.52	2
9	6135	009857846	BATTERY NONRECHARGE12	PG	$8.89	1
10	6150	001440091	CABLE ASSEMBLY POWER	EA	$13.08	8
11	6150	011768446	POWER STRIP ELECTRI	EA	$15.36	8
12	6150	014768277	CABLE ASSY SPECIAL	EA	$41.00	4
13	6230	002648261	FLASHLIGHT 3VOLT DC	EA	$4.94	10
14	6230	012422016	LIGHT SET	SE	$1,184.24	2
15	6230	014743755	LAMP HEAD EMERGENCY	EA	$38.00	4
16	6240	014737735	LIGHT HALOGEN BULB	EA	$6.30	4
17	6505	000636197	LIDOCAINE HCL SOL	BT	$1.26	1
18	6505	000797867	NALOXONE HCL INJ 10S	BX	$4.85	3
19	6505	001049320	PHENYLEPHRINE HCL 25S	BX	$11.80	1
20	6505	001325181	OXYGEN USP 95 GAL	EA	$140.70	4
21	6505	001394512	LIDOCAINE HCL INJ 10S	PG	$9.77	1
22	6505	001394548	CALCIUM CHLORIDE 10%	PG	$27.27	1
23	6505	001487177	DIPHENHYDRAMINE 1ML10	BX	$12.82	1
24	6505	001490113	MORPHINE 10MG 1ML 10S	PG	$6.08	20
25	6505	001507622	LUBRICANT OPHTH1/8 OZ	TU	$2.64	20
26	6505	001538809	LUBRICANT SURG 4 OZ	TU	$3.57	7
27	6505	001539740	HEPARIN SOD INJ 10 ML	VI	$0.54	2
28	6505	002617257	BENZOIN TINCTURE 1 PT	CN	$6.92	1
29	6505	002998179	ALBUMIN HUMAN 100 ML	CN	$163.69	30
30	6505	002998760	EPINEPHRINE INJ1ML25S	PG	$9.88	2
31	6505	004917557	POVIDONE-IODINE CLEA	BT	$1.00	1
32	6505	005434048	WATER INJECT 5 ML 25S	PG	$9.76	1
33	6505	005598456	SODIUM CHL INJ 5ML25S	BX	$6.39	2
34	6505	005607331	SILVER SULFAD CR400GM	JR	$14.54	2
35	6505	006807352	PROMETHAZINE HCL 25S	BX	$9.70	1
36	6505	006855189	TETANUS TOXOID 5 ML	VI	$29.99	3
37	6505	007542547	ATROPINE SULF INJ20ML	VI	$4.28	2
38	6505	008902172	PEN G POT 20000000UN	BT	$4.62	22
39	6505	009515533	HYDROCOR SOD SUC250MG	VI	$1.04	10
40	6505	009586325	NEOSTIGMINE MET 10 ML	VI	$0.56	10

41	6505	010035343	THIOPNTL SOD INJ5GM25	PG	$431.37	1
42	6505	010139941	TERBUTALINE SULF IN10	PG	$8.49	1
43	6505	010197627	GLYCOPYRROLATE 20 ML	BT	$1.10	10
44	6505	010532634	SODIUM BICARB INJ 25S	BX	$48.04	1
45	6505	010731316	FENTANYL CITRATE INJ	PG	$6.51	2
46	6505	010831038	TOBRAMYCIN SULFATE 6S	PG	$767.50	2
47	6505	010932384	EPINEPHRIN INJ10ML10S	PG	$19.83	1
48	6505	011040399	DROPERIDOL INJ 2ML10S	PG	$6.40	1
49	6505	011102026	PHENYTOIN TABS50MG100	PG	$32.79	3
50	6505	011169245	ALBUTEROL INH AER17GM	PG	$18.36	6
51	6505	011231060	DOPAMINE HCL IN10ML10	PG	$89.96	1
52	6505	011253253	MANNITOL INJ 50ML 25S	PG	$26.38	1
53	6505	011264915	LIDOCAINE HCL&DEX INJ	PG	$47.71	1
54	6505	011277946	BUPIVACAINE HCL30ML10	PG	$13.75	1
55	6505	011313855	VERAPAMIL HCL INJ 2ML	CO	$2.32	2
56	6505	011533733	KETAMINE HCL INJ5ML10	PG	$110.68	2
57	6505	011562170	CLEANER HAND GERMI8OZ	BT	$1.80	4
58	6505	012085955	RANITIDINE INJ 2ML10S	PG	$14.94	1
59	6505	012444736	MIDAZOLAM HCL INJ 10S	PG	$63.01	3
60	6505	012447982	LABETALOL HCL INJ20ML	VI	$9.70	1
61	6505	012580983	VECURONIUM BROMIDE10S	PG	$142.73	4
62	6505	013069504	METRONIDAZOLE TABS100	BT	$4.85	2
63	6505	013306269	SODIUM CHL INJ0.9%12S	PG	$5.41	12
64	6505	013308925	SODIUM CHLORIDE INJ84	PG	$58.52	1
65	6505	013370320	CIPROFLOXACIN 40ML60S	PG	$273.40	4
66	6505	013548592	FLUMAZENIL INJ 10S	PG	$192.71	1
67	6505	014163228	ISOPROPYL ALCOHOL USP	BT	$5.15	1
68	6505	014437076	EPHEDRINE SULFATE INJ	PG	$17.57	2
69	6505	014437083	ISOFLURANE USP100ML6S	PG	$121.80	3
70	6505	014437113	LIDOCAINE HCL INJ 5S	PG	$6.48	2
71	6505	014459168	CEFAZOLIN SOD STERILE	PG	$9.88	10
72	6505	014716410	SUCCINYLCHOLINE CHL	PG	$69.42	2
73	6505	014806901	FUROSEMIDE INJ 10 MG	PG	$40.60	4
74	6510	000583047	BANDAGE GAU4-1/2"100S	PG	$98.55	1
75	6510	000802053	GELATIN SPONGE6X2X.7	BX	$59.87	3
76	6510	001110708	PAD NONADH4.125X3.125	PG	$9.28	1
77	6510	002003040	BAND ORTH6INX4YD 36S	PG	$31.70	1
78	6510	002007013	BAND GAUZE 5YD X.875"	RO	$3.93	1
79	6510	002011755	BANDAGE 37X37X52IN	EA	$2.48	20
80	6510	005593159	STOCKINET 25YDX4" 25S	RO	$9.91	1
81	6510	007219808	SPONGE SURG 4X4" 1200	PG	$70.54	1
82	6510	007241017	BANDAGE GAUZE 180"L	PG	$48.07	1
83	6510	007863736	PAD ISOPROPYL ALCOHOL	PG	$4.59	1
84	6510	009137909	BAND ADH .75X3 IN300S	BX	$8.35	1
85	6510	009268882	ADHESIVE TAPE SURG 1"	PG	$14.05	1
86	6510	009268884	ADHESIVE TAPE SURG 3"	PG	$24.28	3
87	6510	009355821	BANDAGE ELAS 4.5YDX3"	PG	$15.13	1

88	6510	009355823	BANDAGE ELAS 6"X4.5YD	PG	$21.15	1
89	6510	010100307	PAD POV-IOD IMPRE100S	PG	$8.25	3
90	6510	010854742	CELLULOSE 8X4"N 24S	PG	$1,279.32	2
91	6510	011532857	DRESSING BURN24X36"15	PG	$90.86	2
92	6510	011534636	BAND CTN PLAST 6"X24'	RO	$177.07	4
93	6510	011642724	SPONGE LAPAR 8X36"100	PG	$55.56	4
94	6510	011715130	BANDAGE GAUZE 4"W 12S	PG	$4.30	1
95	6510	013060898	PAD PETROLATUM 200S	PG	$63.68	1
96	6515	000653181	FORCEPS HEMO MIXTER	EA	$23.48	6
97	6515	001048694	CATHETER URE 16FR 12S	BX	$16.02	2
98	6515	001050720	TUBE TRACH 6MM ID 10S	PG	$21.19	1
99	6515	001050744	TUBE TRACH 7MM ID 10S	PG	$24.39	2
100	6515	001050759	TUBE TRACH 8MM ID 10S	PG	$27.91	2
101	6515	001160533	CUFF SPHYGMOMAN ADULT	EA	$37.88	1
102	6515	001376511	ELECTROSURGICAL APPAR	EA	$4,565.70	2
103	6515	001490104	CATHETERIZATION KIT	EA	$8.95	30
104	6515	001855158	IV INJ SET NON-VEN50S	PG	$70.72	1
105	6515	001859482	FLASHLIGHT EYE 3V	EA	$21.28	10
106	6515	002277897	SUTURE NONABS 3-0 36S	PG	$99.04	2
107	6515	002998710	ADAPTER R ANG ELBOW	EA	$23.88	3
108	6515	002998712	STYLET CATH-TU COPPER	EA	$15.79	2
109	6515	003000600	ADAPTER CATH-LUER SYR	EA	$8.60	3
110	6515	003123500	DRILL HAND BONE .156"	EA	$186.35	1
111	6515	003124260	EXTENSION BONE BIT4.1	EA	$23.78	1
112	6515	003204600	FORCEPS TOWEL 5.25"LG	EA	$17.51	12
113	6515	003225500	CURETTE MASTOID SZ1	EA	$8.65	3
114	6515	003245500	DEPRESSOR TONGUE 100S	PG	$2.34	1
115	6515	003254400	DILATOR TRACHEAL 5.5"	EA	$15.91	1
116	6515	003276600	ELEVATOR NASAL CURVED	EA	$11.84	3
117	6515	003315400	RONGEUR STILLE-LUER9"	EA	$468.69	6
118	6515	003343800	FORCEPS HEMO KELLY	EA	$4.55	6
119	6515	003344100	FORCEPS HEMO CURVED	EA	$21.49	16
120	6515	003347500	FORCEPS HEMO 7.25"LG	EA	$17.44	6
121	6515	003349500	FORCEPS HEMO 9" PEAN	EA	$12.88	6
122	6515	003359100	FORCEPS LUNG 8"LG CRS	EA	$133.85	6
123	6515	003377800	FORCEPS TISSUE 4.5"LG	EA	$51.96	10
124	6515	003380300	FORCEPS TISSUE 6" LG	EA	$39.80	6
125	6515	003382900	FORCEPS HEMO 7.25" LG	EA	$23.99	6
126	6515	003435800	KNIFE AMPUTATING10.5"	EA	$139.45	3
127	6515	003603850	RETRACTOR SET ABDOMIN	SE	$26.78	6
128	6515	003609200	RETRACTOR SET OPER	SE	$9.20	6
129	6515	003610350	RETRACTOR GEN OPER8.5	EA	$41.90	6
130	6515	003614850	RETRACTOR PERINEAL6.5	EA	$42.88	6
131	6515	003632300	CONDUCTOR BONE CUTTNG	EA	$16.36	5
132	6515	003632400	HANDLE BONE CUTTING	PR	$21.96	7
133	6515	003632700	SAW BONE CUTTING 20IN	EA	$10.09	7
134	6515	003634100	SAW FINGER RING 6"LG	EA	$20.47	1

135	6515	003634150	BLADE FINGER RING SAW	EA	$12.92	1
136	6515	003638840	SCISSORS BANDAGE SZ 2	EA	$31.18	20
137	6515	003640560	SCISSORS MAYO CURVED	EA	$40.82	5
138	6515	003866600	CANNULA ABDOMINAL23FR	EA	$17.37	4
139	6515	003867600	CANNULA LARYNGEAL 9"	EA	$26.37	3
140	6515	003869708	HARNESS HEAD ANES	EA	$43.09	2
141	6515	004205749	SOUND CHAM&CUFF ADULT	EA	$74.40	2
142	6515	004312890	LANCET 1.25X.375"100S	PG	$2.69	1
143	6515	004330420	SUTURE NONABS 2-0 3DZ	DZ	$18.32	2
144	6515	004338950	SUTURE NONABS 1-0 3DZ	DZ	$8.97	2
145	6515	004588411	CATHETER&CON TRAC 50S	PG	$85.93	1
146	6515	005152113	BRACE BIT BONE 9.75"	EA	$194.30	2
147	6515	005152114	BUR CRANIAL 9MM DIA	EA	$65.86	1
148	6515	005152115	BUR CRANIAL 16MM DIA	EA	$25.94	1
149	6515	005152116	DRILL FLAT CRANIAL	EA	$118.24	1
150	6515	005158679	STARTER KIT OSTO 3.5"	EA	$29.92	1
151	6515	005507199	OTOSCOPE&OPHTH SCOPE	SE	$207.69	2
152	6515	005842893	INFUSOR BLD COL-DISPN	EA	$129.94	6
153	6515	006165052	LARYNGOSCOP INF-CH-AD	EA	$94.60	3
154	6515	006555751	NEEDLE HYPO 25GA 100S	PG	$3.75	1
155	6515	006645398	CHISEL BONE 8.125"LG	EA	$50.55	2
156	6515	006878052	AIRWAY PHARY 100MM	EA	$4.58	2
157	6515	006878054	FORCEPS HEMO5.5"CRILE	EA	$13.77	16
158	6515	006903196	CLAMP ARTERY 11.75"LG	EA	$76.50	3
159	6515	006903198	HOLDER SUTURE NDL 7"	EA	$60.80	5
160	6515	006903202	HOLDER SUTURE NDL 12"	EA	$53.55	3
161	6515	007257843	CONNECTOR TU A14 50S	PG	$53.88	1
162	6515	007540412	SYRINGE HYPO 10ML100S	PG	$18.99	2
163	6515	007542834	NEEDLE HYPO 18GA 100S	PG	$6.63	2
164	6515	007637366	TUBE DRAIN 32FR 10S	PG	$25.98	1
165	6515	007822621	MASK SURG NONGLARE50S	PG	$6.67	3
166	6515	008648864	STOPCOCK IV THERAPY50	PG	$111.90	2
167	6515	008669073	TUBE DRAIN 36FR 10S	PG	$17.14	2
168	6515	008801833	ADAPTER Y-PIECE TRACH	EA	$34.98	3
169	6515	008901683	CLAMP VENA CAVA 10"LG	EA	$192.78	6
170	6515	009171912	TUBE NASOGASTRIC 50S	PG	$113.00	1
171	6515	009269150	VALVE SURG DRAIN 10S	PG	$189.91	2
172	6515	009269193	RETRACTOR MASTOID6.5"	EA	$48.21	3
173	6515	009269201	CONNECTOR TUBING 3.5"	PG	$15.11	1
174	6515	009354088	STETHOSCOPE ADULT SZ	EA	$5.91	9
175	6515	009582232	AIRWAY PHARYN 80MM12S	BX	$3.20	2
176	6515	009786133	KNIFE GEN SZ15 100S	PG	$11.74	1
177	6515	009856988	SUTURE NONABS 1-0 12S	PG	$17.67	4
178	6515	010272072	SUTURE NONABS 5-0 1DZ	DZ	$44.88	5
179	6515	010390164	CASE SPHYGMOMANOMETER	EA	$4.84	2
180	6515	010394884	SPHYGMOMANOMETER	EA	$12.41	2
181	6515	010457158	KNIFE STERNUM 10"LG	EA	$68.68	3

182	6515	010606801	DISSECTOR PENFIELD 3	EA	$48.98	1
183	6515	010715561	STAPLER SURGICAL 6S	PG	$80.61	1
184	6515	010747812	CANNULA LARYNGEAL 50S	PG	$34.99	1
185	6515	010759809	EVACUATOR WOUND 400ML	PG	$304.77	1
186	6515	010858035	ELECTRODE GEL 250GM12	PG	$20.88	1
187	6515	010895668	SCISSORS GEN SURG 11"	EA	$57.64	3
188	6515	010960217	HANDLE&ELECTRODE 10S	PG	$255.29	3
189	6515	011011949	TUBING SURG 144" 20S	PG	$40.82	1
190	6515	011039995	NEEDLE HYPO 25GA 25S	PG	$28.69	2
191	6515	011039996	NEEDLE HYPO 22GA 25S	PG	$30.36	2
192	6515	011067648	CANISTER 1500CC 100S	PG	$186.17	1
193	6515	011132623	RETRACTOR PLAS SURG	EA	$23.40	4
194	6515	011151726	CATHETER FOGARTY 3FR	EA	$49.41	4
195	6515	011190017	PROBE GEN OPER 8" LG	EA	$1.79	2
196	6515	011192930	PLATE GROUNDING 100S	PG	$143.55	1
197	6515	011253227	HOOK BONE 7.25" LG	EA	$9.45	3
198	6515	011281407	BLOOD RECIPIENT 48S	PG	$176.13	1
199	6515	011384742	SUTURE NONABS 3-0 2DZ	DZ	$180.53	2
200	6515	011397576	CANNULA SUCTION 11 FR	EA	$44.25	1
201	6515	011397990	KEY DRILL CHUCK T-STY	EA	$14.37	2
202	6515	011398128	TOURNIQUET PNEUMATIC	EA	$114.45	1
203	6515	011398191	CLAMP COARCTATION22.5	EA	$44.81	6
204	6515	011398245	SPATULA BRAIN 7X0.25"	EA	$22.55	1
205	6515	011398247	SPATULA BRAIN 7X0.50"	EA	$25.85	1
206	6515	011398249	SPATULA BRAIN 7X0.75"	EA	$20.49	1
207	6515	011398267	RASP BONE PUTTI STYLE	EA	$194.35	3
208	6515	011398931	FORCEPS TISSUE 7"LONG	EA	$25.21	3
209	6515	011398938	FORCEPS THORACIC 9"LG	EA	$59.97	6
210	6515	011398941	FORCEPS TISSUE 12" LG	EA	$44.27	3
211	6515	011398969	RETRACTOR SZ2.5X3.25"	EA	$171.45	2
212	6515	011398996	ELEVATOR PERIOST .50"	EA	$30.79	3
213	6515	011405343	MASK REBREATHING 50S	PG	$93.25	1
214	6515	011405344	TUBING BREATHING 100'	EA	$13.90	1
215	6515	011470203	TUBE SUCT YANKAUER50S	PG	$65.88	1
216	6515	011498097	KNIFE GEN SZ10 100S	PG	$73.98	1
217	6515	011498839	GLOVES SURG SZ6.5 50S	PG	$32.20	1
218	6515	011498840	GLOVES SURGEONS SZ7	PG	$28.45	2
219	6515	011498841	GLOVES SURG SZ7.5 50S	PG	$26.42	2
220	6515	011498842	GLOVES SURG SZ 8 50S	PG	$15.20	2
221	6515	011511822	SCISSORS WIRE 4.75"LG	EA	$24.32	3
222	6515	011535847	SUTURE NONABS SZ0 36S	PG	$37.62	2
223	6515	011562394	CATHETER ARTERIAL 7FR	EA	$28.99	4
224	6515	011562458	DETERGENT INSTR 5 LB	CN	$15.37	1
225	6515	011563011	ELECTRODE ELECTROS40S	PG	$238.43	2
226	6515	011602537	ELECTRODE EKG ADH 30S	PG	$40.94	3
227	6515	011621945	SUTURE NONABS 3-0 3DZ	DZ	$49.02	2
228	6515	011643750	SCISSORS VASCULAR 8"	EA	$29.10	5

229	6515	011646288	TUBE SUCTION CRS 15FR	EA	$137.25	6
230	6515	011656742	SYRINGE HYPO 30ML 25S	PG	$14.47	3
231	6515	011676637	AIRWAY NASOPHARYNGEAL	PG	$59.23	1
232	6515	011774924	CATHETER CARDIO 6FR	EA	$45.03	4
233	6515	011885316	TUBE DRAIN 1X18" 200S	PG	$69.44	1
234	6515	012080576	STIMULATOR NERVE BTRY	EA	$170.23	2
235	6515	012080578	RETRACTOR RIBBON1X13"	EA	$10.37	3
236	6515	012192756	DRAIN SURG WND 10MM10	PG	$52.33	2
237	6515	012246049	LOOP VASCULAR 16" 10S	PG	$32.80	2
238	6515	012254681	SPLINT UNIV 36X4.5"12	PG	$109.40	1
239	6515	012273563	LIGHT HEAD SURGICAL	EA	$409.50	4
240	6515	012321857	LIGATURE UMBILICAL24S	PG	$26.83	1
241	6515	012340253	MALLET BONE SURG 2 LB	EA	$165.08	3
242	6515	012346838	APPLICATOR 6" 100S	PG	$0.66	2
243	6515	012476600	RESUSCITATOR HAND OPR	EA	$146.78	4
244	6515	012478925	TUBE EXT INJ 30" 48S	PG	$47.26	1
245	6515	012508936	SPLINT TRACTION-EXTRI	EA	$579.67	1
246	6515	012552833	SUTURE NONABS SZ1 2DZ	DZ	$29.01	3
247	6515	012796450	MONITOR OXY 6.75X3.5"	EA	$711.45	2
248	6515	012848704	SUCTION APPAR TRACH	EA	$1,141.02	10
249	6515	012899820	VAPORIZER ANESTHESIA	EA	$7,434.36	2
250	6515	012923736	CATHETER&NDL 16GA 50S	PG	$86.72	1
251	6515	012983857	FORCEPS TISSUE 7" LG	EA	$49.55	3
252	6515	013015254	SUTURE ABS SZ 4-0 1DZ	DZ	$27.00	5
253	6515	013059152	CATHETER&NDL 14GA 50S	PG	$36.18	1
254	6515	013110361	INTRODUCER SET CATH10	PG	$187.82	1
255	6515	013139633	KNIFE GENERAL SURG100	PG	$65.55	1
256	6515	013155317	SUTURE ABS SZ 3-0 12S	PG	$75.66	4
257	6515	013156227	CATHETER/NDL 18GA 50S	PG	$43.92	1
258	6515	013165055	GLOVE PAT MED LGE100S	PG	$6.58	1
259	6515	013194059	IMPLANT ARTERIAL 70CM	EA	$693.00	5
260	6515	013340855	FILTER-AIR ELIMINAT20	PG	$310.00	1
261	6515	013340856	PREFILTER ELEMENT 60S	PG	$225.00	1
262	6515	013371918	SUTURE NONABS 5-0 36S	PG	$37.52	2
263	6515	013390628	ADMINISTRATION SET120	PG	$60.51	1
264	6515	013435653	STAPLER SURG 35UN 12S	PG	$92.23	1
265	6515	013445249	EXTENSION LINE BLD40S	PG	$212.00	1
266	6515	013445255	TUBING EXT BLOOD 40S	PG	$158.11	1
267	6515	013446106	BLOOD WARMING SET 20S	PG	$549.00	1
268	6515	013448487	INJECTOR TUBE PLASTIC	EA	$4.34	12
269	6515	013479447	COVER THERM PROBE5000	PG	$277.99	1
270	6515	013543150	DEFIB/MON RECORDR115V	EA	$18,215.92	2
271	6515	013563892	CANISTER OUTER 1500ML	EA	$6.14	12
272	6515	013633541	SUTURE ABS SZ 0 1DZ	DZ	$50.71	2
273	6515	013648148	REGULATOR FLOW RATE48	PG	$347.49	1
274	6515	013669682	NEEDLE HYPO 22GA 100S	PG	$42.05	1
275	6515	013705019	BLOOD-FLUID WARMER	EA	$4,696.08	1

276	6515	013719617	BLOOD&IV WARMING 30S	PG	$444.69	1
277	6515	013814456	PUMP I.V. INFUSION	EA	$6,900.23	4
278	6515	013831052	CONCENTRATOR OXYGEN	EA	$1,111.68	4
279	6515	013876428	STOPCOCK IV THERAPY40	PG	$128.00	1
280	6515	013892071	INFUSION SET 48S	PG	$174.55	1
281	6515	014003847	BLOOD RECOVERY SET 6S	PG	$303.56	1
282	6515	014191427	STYLET TRACHEAL TUBE	EA	$39.53	2
283	6515	014196393	MASK AIRWAY LARYN #.4	EA	$241.56	4
284	6515	014344231	SENSOR OXYGEN MONITOR	EA	$144.84	2
285	6515	014405976	THERMOMETER TYMPANIC	EA	$421.00	2
286	6515	014468319	ADAPTER CO2 AIRWAY PT	PG	$144.05	2
287	6515	014476871	BLOOD COLL-DIS BAG24S	PG	$148.53	2
288	6515	014491016	SHIELD EYE SURG FOX12	PG	$19.71	1
289	6515	014521743	SHEILD EYE2-1/8X2-5/8	PG	$57.60	1
290	6515	014532846	PROBE TEMP MONITORING	EA	$65.88	8
291	6515	014587921	RETRACTOR GENL OPER	EA	$12.80	3
292	6515	014587927	RETRACTOR GENL OPER	EA	$12.80	3
293	6515	014609167	IRRIGATION SET UROL	PG	$48.06	1
294	6515	014631464	FIXATION EXT ORTHOPED	EA	$1,702.00	6
295	6515	014653285	MONITOR PATIENT VITAL	EA	$14,797.16	6
296	6515	014653289	MONITOR PATIENT VITAL	EA	$21,277.80	2
297	6515	014704215	VENTILATOR CIRCUIT	PG	$46.10	1
298	6515	014721863	INTRAVENOUS INJECTION	PG	$167.27	2
299	6515	014737739	ADAPTER BATTERY POWER	EA	$5.31	4
300	6515	014770701	STAPLER,SURGICAL	PG	$208.98	2
301	6515	014770716	STAPLER,SURGICAL 3S	PG	$412.68	3
302	6515	014770727	CARTRIDGE,STAPLE,PI	PG	$187.68	3
303	6515	014770735	STAPLE UNIT,SURGICA	PG	$380.76	5
304	6515	014779007	HUMIDIFIER,HYGROSCO	PG	$101.70	2
305	6515	014854362	PUMP INTRAVENOUS INF	EA	$2,456.64	8
306	6515	015045417	HUMIDIFIER,HYGROSCO25	PG	$66.82	1
307	6530	001101854	TOWEL PACK SURG 96S	PG	$121.57	1
308	6530	002998069	BOWL SUR SPONGE NEST	EA	$7.51	4
309	6530	006600034	SUPPORT LITTER FOLDNG	PR	$159.80	12
310	6530	007709220	BASIN EMESIS CRS	EA	$14.24	6
311	6530	007710225	BASIN WASH STEEL 9QT	PG	$227.70	1
312	6530	007844205	STRAP WEB SEC LOCK OD	EA	$21.26	8
313	6530	007884010	RESTRAINT ST WRI-ANK	SE	$135.00	1
314	6530	007926000	ROD INTRAVENOUS IRRIG	EA	$345.66	10
315	6530	010422485	URINAL M PAT PLT 50S	PG	$25.98	1
316	6530	010479698	DRAPE SURG PLAS 10S	PG	$32.13	3
317	6530	011190012	SPINBRD LNG18X72X3/4"	EA	$187.25	1
318	6530	011190015	PAD BED LINEN PROT300	PG	$24.74	1
319	6530	011265397	SURGICAL PACK DISP 7S	PG	$94.91	3
320	6530	011732085	TRAY INST CRS PERFORA	EA	$38.41	6
321	6530	012442776	WRAPPER STER24X24" 6S	PG	$28.38	2
322	6530	012512699	DISPOSAL CONTAINER100	PG	$112.00	1

323	6530	012761420	BRUSH SURG SCRUB36S	PG	$25.85	3
324	6530	013215592	TABLE OPERATING FIELD	EA	$3,824.20	2
325	6530	013611746	BAG BIOHAZ 48X40"250S	PG	$36.21	1
326	6530	013807309	LITTER FOLDING 91.60"	EA	$271.32	12
327	6530	014170863	TRAY STERILIZATION	EA	$6.86	4
328	6530	014182665	COVER STERILIZATION	EA	$44.25	4
329	6530	014315146	VENTILATOR VOLUME	EA	$11,647.45	4
330	6530	014319005	SINK UNIT SURG SCRUB	EA	$1,145.43	2
331	6530	014617951	BEDPAN FRACTURE 12S	PG	$46.67	1
332	6532	000048055	CAP OPER SURG UNIV100	PG	$17.02	1
333	6532	010887642	SURGICAL PACK GOWN20S	PG	$65.91	3
334	6545	002998649	INSERT CAB MED CHEST	EA	$387.18	6
335	6545	009143480	CHEST MED INS SUP NO3	EA	$558.15	24
336	6545	009143500	CHEST MED INS SUP NO5	EA	$778.14	3
337	6545	009143510	CHEST MED INS SUP NO6	EA	$385.86	7
338	6545	009266660	CASE HOSP LINENS SML	EA	$43.37	4
339	6545	011571155	LEG MISS CHST FLD#3&5	EA	$79.66	84
340	6545	013825876	CASE MEDICAL INSTRUMT	EA	$85.98	8
341	6550	010572642	BLOOD SERUM ANT-A10ML	BT	$70.97	2
342	6550	010572643	BLOOD GRP SERUM ANTIB	BT	$70.97	2
343	6550	013384677	TEST STRIPS&COLOR CHA	BT	$42.82	1
344	6550	013438993	BLOOD GROUPING SERUM	PG	$69.17	2
345	6625	011929460	BTRY SPT SYS DEFIBRIL	EA	$1,337.36	1
346	6630	014729860	ANALYZER BLD	EA	$9,512.35	1
347	6640	000744191	SLIDE MICROSCOPE 72S	PG	$4.37	2
348	6640	004314520	GRADUATE LIQ LAB CRS	EA	$81.26	1
349	6640	010884246	PIPET TRANSFER 500S	PG	$10.85	1
350	6640	014829048	DETERGENT HOSP/LAB	PG	$31.00	1
351	6680	012346789	REGULATOR OXYGEN PRES	EA	$329.16	2
352	7210	004980512	SHEET BED AQUA 100S	PG	$86.80	1
353	7210	007157985	BLANKET BED WOOL O-G	EA	$55.50	30
354	7210	009356665	BLANKET LIGHT WEIGHT	EA	$6.58	30
355	7210	010132824	WASHCLOTH DISP 1000S	PG	$84.71	1
356	7230	002471280	CURTAIN SHOWER36X78IN	EA	$4.92	6
357	7230	002523394	HOOK SHOWER CURTAIN	BX	$4.45	1
358	7240	000893827	CAN WATER MILITARY	EA	$9.32	10
359	7520	002236672	PENCIL MECHANICAL	DZ	$6.25	1
360	7520	002405503	CLIP BOARD FILE9X17IN	EA	$1.65	6
361	7520	009357135	PEN BALL-POINT BLACK	DZ	$4.83	2
362	7520	012486813	MARKER TUBE TYPE RED	PG	$9.87	1
363	7690	009354118	LABEL 1.5X2.5IN 1000S	RO	$9.26	1
364	8105	009892376	BAG PLAS 40"X30" 50S	BX	$3.91	1
365	8105	011893871	BAG WASTE RECEPTAC250	PG	$101.57	1
366	8115	014682012	CONTAINER REUSABLE	EA	$490.00	1
367	8315	013713252	FASTENER TAPE HOOK 1"	RO	$38.43	1
368	8345	002872136	PANEL MARKER RED CROS	EA	$122.00	1
369	8415	002228074	APRON PLASTIC DIS100S	HD	$10.41	1

370	9930	013316244	POUCH HUMAN REMAINS	EA	$44.81	2

Note. 370 total items in MES FST with UAC 2267 as of March 1, 2003.

Source:
www.armymedicine.army.mil/usamma/apps/nana_uaweb/index.htm

Appendix B

General Instructions for Designated Panel Members - MES/Operational Equipment Sets/Dental Equipment Sets/Veterinary Equipment Sets Reviews

In accordance with Army Regulation (AR) 40-60, AR 700-60, AR 40-61, Training and Doctrine Command (TRADOC) Pamphlet (PAM) 71-9, and AR 71-32, Army medical equipment sets are reviewed as a cyclic process every three years. Although individual suggestions, utilizing DA Form 2028, may be submitted to the Directorate of Combat and Doctrine Development (DCDD) at any time by any Army employee, the cyclic review is the community's chance to fine-tune sets, once in a three-year period.

Reviewing a set means ensuring that the set is capable of performing its combat missions, per the Table of Organization and Equipment (TOE) mission statement. Reviewing a set does not mean changing a set, simply for the sake of changing it. If the current item or piece of equipment is capable of performing the set's combat mission, a change is probably not required.

One of the desired results of a set review is the reduction of weight and cube, wherever possible. The assemblages of tomorrow's Army need to be lighter, more deployable, with a reduced footprint on the battlefield.

Keep in mind that if bulky or heavy items are added, other items will probably need to be deleted to maintain the overall reduced weight and cube of the set. Of course, the cost of items is also a decision-making factor. Medical logisticians from DCDD, Medical Materiel Branch, Force Sustainment Division are experts in providing pertinent information on weight, cube and cost of items considered for addition to the sets.

Non-standard items (commercial items not having an assigned National Stock Number – NSN) are commonly added to sets during reviews. DCDD can help with the standardization process. Panel members need to provide as much commercial catalog data as possible so the new item can be standardized. Vendors are (understandably) helpful in this process, and vendor contact is encouraged.

Major equipment end items (MEI's) — that is, equipment items that either 1) cost in excess of $100K, 2) are readiness reportable, or 3) are maintenance significant cannot be embedded as a component in a medical equipment set. These items require separate Line Item Numbers (LINs), and combat developers must complete an Operational Requirements Document (ORD) and a Basis of Issue Plan (BOIP). This process takes at least three years, and can take as long as seven years. A panel that desires to add a

new MEI must understand that the new item will not be fielded for years, and no other set components should be designed to support the proposed new MEI during the current review.

Deletions, additions and quantity changes all require a brief written justification, detailing the way in which the change makes the set better capable to perform its designated combat missions.

Note. This entire Appendix is information obtained from the website located at:
www.dcdd.amedd.army.mil/FS/SKO/generalinstructions.htm

Appendix C

Differences Between UA 0267 (1996 FST MES) and UA 2267 (2002 FST MES)

NOMENCLATURE		LIN	Title	UI	Est. Price	Allow-ance	ADDED / DELETED
6135	009735632		BATTERY NONRECHAR 9V	EA	$5.19	4	ADDED
6150	001440091		CABLE ASSEMBLY POWER	EA	$13.08	8	ADDED
6150	011768446		POWER STRIP ELECTRI	EA	$15.36	8	ADDED
6150	014768277		CABLE ASSY SPECIAL	EA	$41.00	4	ADDED
6230	014743755		LAMP HEAD EMERGENCY	EA	$38.00	4	ADDED
6240	014737735		LIGHT HALOGEN BULB	EA	$6.30	4	ADDED
6505	002998179		ALBUMIN HUMAN 100 ML	CN	$163.69	30	ADDED
6505	002998760		EPINEPHRINE INJ1ML25S	PG	$9.88	2	ADDED
6505	010831038		TOBRAMYCIN SULFATE 6S	PG	$767.50	2	ADDED
6505	011102026		PHENYTOIN TABS50MG100	PG	$32.79	3	ADDED
6505	011169245		ALBUTEROL INH AER17GM	PG	$18.36	6	ADDED
6505	013069504		METRONIDAZOLE TABS100	BT	$4.85	2	ADDED
6505	013306269		SODIUM CHL INJ0.9%12S	PG	$5.41	12	ADDED
6505	013548592		FLUMAZENIL INJ 10S	PG	$192.71	1	ADDED
6505	014437076		EPHEDRINE SULFATE INJ	PG	$17.57	2	ADDED
6505	014437083		ISOFLURANE USP100ML6S	PG	$121.80	3	ADDED
6505	014437113		LIDOCAINE HCL INJ 5S	PG	$6.48	2	ADDED
6505	014459168		CEFAZOLIN SOD STERILE	PG	$9.88	10	ADDED
6505	014716410		SUCCINYLCHOLINE CHL	PG	$69.42	2	ADDED
6505	014806901		FUROSEMIDE INJ 10 MG	PG	$40.60	4	ADDED
6510	000802053		GELATIN SPONGE6X2X.7	BX	$59.87	3	ADDED
6510	002003040		BAND ORTH6INX4YD 36S	PG	$31.70	1	ADDED
6510	011534636		BAND CTN PLAST 6"X24'	RO	$177.07	4	ADDED
6510	011715130		BANDAGE GAUZE 4"W 12S	PG	$4.30	1	ADDED
6510	013060898		PAD PETROLATUM 200S	PG	$63.68	1	ADDED
6515	001050720		TUBE TRACH 6MM ID 10S	PG	$21.19	1	ADDED
6515	001050744		TUBE TRACH 7MM ID 10S	PG	$24.39	2	ADDED
6515	003276600		ELEVATOR NASAL CURVED	EA	$11.84	3	ADDED
6515	003867600		CANNULA LARYNGEAL 9"	EA	$26.37	3	ADDED
6515	004330420		SUTURE NONABS 2-0 3DZ	DZ	$18.32	2	ADDED
6515	004338950		SUTURE NONABS 1-0 3DZ	DZ	$8.97	2	ADDED
6515	010272072		SUTURE NONABS 5-0 1DZ	DZ	$44.88	5	ADDED
6515	010606801		DISSECTOR PENFIELD 3	EA	$48.98	1	ADDED
6515	011132623		RETRACTOR PLAS SURG	EA	$23.40	4	ADDED
6515	011151726		CATHETER FOGARTY 3FR	EA	$49.41	4	ADDED
6515	011253227		HOOK BONE 7.25" LG	EA	$9.45	3	ADDED
6515	011384742		SUTURE NONABS 3-0 2DZ	DZ	$180.53	2	ADDED
6515	011398128		TOURNIQUET PNEUMATIC	EA	$114.45	1	ADDED
6515	011398245		SPATULA BRAIN 7X0.25"	EA	$22.55	1	ADDED

6515	011398247		SPATULA BRAIN 7X0.50"	EA	$25.85	1	ADDED
6515	011398249		SPATULA BRAIN 7X0.75"	EA	$20.49	1	ADDED
6515	011398931		FORCEPS TISSUE 7"LONG	EA	$25.21	3	ADDED
6515	011398969		RETRACTOR SZ2.5X3.25"	EA	$171.45	2	ADDED
6515	011498839		GLOVES SURG SZ6.5 50S	PG	$32.20	1	ADDED
6515	011535847		SUTURE NONABS SZ0 36S	PG	$37.62	2	ADDED
6515	011562394		CATHETER ARTERIAL 7FR	EA	$28.99	4	ADDED
6515	011621945		SUTURE NONABS 3-0 3DZ	DZ	$49.02	2	ADDED
6515	011656742		SYRINGE HYPO 30ML 25S	PG	$14.47	3	ADDED
6515	011774924		CATHETER CARDIO 6FR	EA	$45.03	4	ADDED
6515	011885316		TUBE DRAIN 1X18" 200S	PG	$69.44	1	ADDED
6515	012080576		STIMULATOR NERVE BTRY	EA	$170.23	2	ADDED
6515	012080578		RETRACTOR RIBBON1X13"	EA	$10.37	3	ADDED
6515	012246049		LOOP VASCULAR 16" 10S	PG	$32.80	2	ADDED
6515	012476600		RESUSCITATOR HAND OPR	EA	$146.78	4	ADDED
6515	012552833		SUTURE NONABS SZ1 2DZ	DZ	$29.01	3	ADDED
6515	012923736		CATHETER&NDL 16GA 50S	PG	$86.72	1	ADDED
6515	012983857		FORCEPS TISSUE 7" LG	EA	$49.55	3	ADDED
6515	013015254		SUTURE ABS SZ 4-0 1DZ	DZ	$27.00	5	ADDED
6515	013059152		CATHETER&NDL 14GA 50S	PG	$36.18	1	ADDED
6515	013155317		SUTURE ABS SZ 3-0 12S	PG	$75.66	4	ADDED
6515	013371918		SUTURE NONABS 5-0 36S	PG	$37.52	2	ADDED
6515	013435653		STAPLER SURG 35UN 12S	PG	$92.23	1	ADDED
6515	013445249		EXTENSION LINE BLD40S	PG	$212.00	1	ADDED
6515	013448487		INJECTOR TUBE PLASTIC	EA	$4.34	12	ADDED
6515	013479447		COVER THERM PROBE5000	PG	$277.99	1	ADDED
6515	013633541		SUTURE ABS SZ 0 1DZ	DZ	$50.71	2	ADDED
6515	013648148		REGULATOR FLOW RATE48	PG	$347.49	1	ADDED
6515	013669682		NEEDLE HYPO 22GA 100S	PG	$42.05	1	ADDED
6515	013719617		BLOOD&IV WARMING 30S	PG	$444.69	1	ADDED
6515	013814456		PUMP I.V. INFUSION	EA	$6,900.23	4	ADDED
6515	013876428		STOPCOCK IV THERAPY40	PG	$128.00	1	ADDED
6515	014191427		STYLET TRACHEAL TUBE	EA	$39.53	2	ADDED
6515	014196393		MASK AIRWAY LARYN #.4	EA	$241.56	4	ADDED
6515	014344231		SENSOR OXYGEN MONITOR	EA	$144.84	2	ADDED
6515	014405976		THERMOMETER TYMPANIC	EA	$421.00	2	ADDED
6515	014476871		BLOOD COLL-DIS BAG24S	PG	$148.53	2	ADDED
6515	014532846		PROBE TEMP MONITORING	EA	$65.88	8	ADDED
6515	014587921		RETRACTOR GENL OPER	EA	$12.80	3	ADDED
6515	014587927		RETRACTOR GENL OPER	EA	$12.80	3	ADDED
6515	014609167		IRRIGATION SET UROL	PG	$48.06	1	ADDED
6515	014631464		FIXATION EXT ORTHOPED	EA	$1,702.00	6	ADDED
6515	014653285	Z97117	MONITOR PATIENT VITAL	EA	$14,797.16	6	ADDED
6515	014653289	M66558	MONITOR PATIENT VITAL	EA	$21,277.80	2	ADDED
6515	014704215		VENTILATOR CIRCUIT	PG	$46.10	1	ADDED
6515	014721863		INTRAVENOUS INJECTION	PG	$167.27	2	ADDED

6515	014737739		ADAPTER BATTERY POWER	EA	$5.31	4	ADDED
6515	014770701		STAPLER,SURGICAL	PG	$208.98	2	ADDED
6515	014770716		STAPLER,SURGICAL 3S	PG	$412.68	3	ADDED
6515	014770727		CARTRIDGE,STAPLE,PI	PG	$187.68	3	ADDED
6515	014770735		STAPLE UNIT,SURGICA	PG	$380.76	5	ADDED
6515	014779007		HUMIDIFIER,HYGROSCO	PG	$101.70	2	ADDED
6515	014854362		PUMP INTRAVENOUS INF	EA	$2,456.64	8	ADDED
6515	015045417		HUMIDIFIER,HYGROSCO25	PG	66.82	1	ADDED
6530	011732085		TRAY INST CRS PERFORA	EA	$38.41	6	ADDED
6530	012512699		DISPOSAL CONTAINER100	PG	$112.00	1	ADDED
6530	012761420		BRUSH SURG SCRUB36S	PG	$25.85	3	ADDED
6530	014315146	V99788	VENTILATOR VOLUME	EA	$11,647.45	4	ADDED
6530	014617951		BEDPAN FRACTURE 12S	PG	$46.67	1	ADDED
6532	010887642		SURGICAL PACK GOWN20S	PG	$65.91	3	ADDED
6550	010572642		BLOOD SERUM ANT-A10ML	BT	$70.97	2	ADDED
6550	010572643		BLOOD GRP SERUM ANTIB	BT	$70.97	2	ADDED
6550	013438993		BLOOD GROUPING SERUM	PG	$69.17	2	ADDED
6625	011929460		BTRY SPT SYS DEFIBRIL	EA	$1,337.36	1	ADDED
6630	014729860	Z07692	ANALYZER BLD	EA	$9,512.35	1	ADDED
6640	000744191		SLIDE MICROSCOPE 72S	PG	$4.37	2	ADDED
6640	014829048		DETERGENT HOSP/LAB	PG	$31.00	1	ADDED
6680	012346789		REGULATOR OXYGEN PRES	EA	$329.16	2	ADDED
7230	02471280		CURTAIN SHOWER36X78IN	EA	$4.92	6	ADDED
7520	002236672		PENCIL MECHANICAL	DZ	$6.25	1	ADDED
8105	009892376		BAG PLAS 40"X30" 50S	BX	$3.91	1	ADDED
8115	014682012		CONTAINER REUSABLE	EA	$490.00	1	ADDED
8315	013713252		FASTENER TAPE HOOK 1"	RO	$38.43	1	ADDED
8345	02872136		PANEL MARKER RED CROS	EA	$122.00	1	ADDED
4720	013452256		TUBING NONMETALLIC50'	RO	$22.41	2	DELETED
6230	001255528		FLASHLIGHT 3VOLT 12S	PG	$2.22	2	DELETED
6505	000236481		ISOPROTERENOL 15 ML	PG	$26.94	2	DELETED
6505	001334449		EPINEPHRINE INJ1ML10S	PG	$19.52	2	DELETED
6505	001375891		DIAZEPAM INJ 2ML 10S	PG	$12.57	2	DELETED
6505	001487096		POVIDONE-IOD OIN 144S	PG	$61.04	1	DELETED
6505	001816279		EDROPHONIUM CHL INJ10	PG	$17.50	2	DELETED
6505	002165370		SOD BICAR INJ50ML 10S	PG	$18.24	1	DELETED
6505	005986116		LIDOCAINE 1.0% 50 ML	BT	$1.05	3	DELETED
6505	006895522		ISOPROTERENOL HCL INJ	PG	$33.29	1	DELETED
6505	007540374		POVI-IODI TOP SOL 1GL	BT	$8.18	1	DELETED
6505	008542504		HALOTHANE USP 125 ML	BT	$12.51	8	DELETED
6505	009173709		DOXAPRAM HCL 20MG20ML	BT	$16.44	1	DELETED
6505	009635355		DEXAMETHASONE INJ 5CC	VI	$0.46	8	DELETED
6505	009947224		POVIDONE-IOD SOL 1GAL	BT	$31.79	1	DELETED
6505	010100832		CEFAZOLIN SODIUM 1GM	PG	$35.90	40	DELETED
6505	010268403		PHYSOSTIGMINE INJ 12S	PG	$32.96	4	DELETED
6505	010282260		SUCCINYCHO CHLOR 12S	PG	$134.27	3	DELETED

6505	010750678		SODIUM CHLORIDE 12S	BX	$9.88	2	DELETED
6505	010750679		WATER STER 1000ML 12S	PG	$11.34	1	DELETED
6505	011007984		IOTHALA MEG INJ30ML50	PG	$46.88	1	DELETED
6505	011179832		ISOFLURANE 100 ML	BT	$19.75	6	DELETED
6505	011771982		CLINDAMYCIN INJ 25S	PG	$47.10	2	DELETED
6505	012052398		METOCLOPRAMIDE INJ 6S	PG	$75.63	1	DELETED
6505	012139514		GENTAMICIN SULF2ML25S	PG	$7.09	3	DELETED
6505	012148774		FUROSEMIDE INJ 4ML 10	PG	$11.74	8	DELETED
6505	012192760		CEFTRIAXONE SOD INJ10	PG	$207.25	2	DELETED
6505	012396963		DANTROLENE SOD 20MG6S	PG	$365.90	8	DELETED
6505	012695637		AMPICILLIN SOD 1GM10S	PG	$6.81	20	DELETED
6505	012752568		AMPICILLIN &SULBACTAM	PG	$143.41	2	DELETED
6505	012811247		HETASTARCH IN SOD 12S	PG	$295.14	1	DELETED
6505	014554200		LIDOCAINE AND EPINEPH	VI	$1.39	10	DELETED
6510	002006000		BAND GAUZE 10YSX4"12	PG	$20.33	5	DELETED
6510	002020800		GAUZE 18X3" 12S	PG	$8.54	1	DELETED
6510	007822700		SPONGE SURG 2X2" 200S	PG	$3.30	1	DELETED
6510	008172634		BAND FELT 4INX4YD 72S	PG	$52.47	1	DELETED
6510	011518145		SPONGE SUR4X8IN1000S	PG	$167.42	1	DELETED
6510	011966204		BNDGE ORTHO 3INX4YD10	PG	$47.20	2	DELETED
6510	013085343		BANDAGE CAST POLYUR	PG	$131.10	1	DELETED
6510	013366180		COLLAGEN HEMO 12S	PG	$471.31	1	DELETED
6510	014081920		DRESSING CHEST WOUND	PG	$100.71	1	DELETED
6515	001050653		TUBE TRACH 4.2MM 10S	PG	$18.68	1	DELETED
6515	001050664		TUBE TRACH 4MM ID 10S	PG	$15.30	1	DELETED
6515	001050707		TUBE TRACH 5MM ID 10S	PG	$19.20	1	DELETED
6515	001150032		INTRAVENOUS INJ SE48S	PG	$63.99	2	DELETED
6515	001395916		SUTURE ABS SZ 3-0 36S	PG	$73.09	2	DELETED
6515	001491405		THERMOMETER CLIN ORAL	EA	$1.00	2	DELETED
6515	001491407		THERMOMETER RECTAL	EA	$0.82	4	DELETED
6515	002260251		SUTURE NONABS 4-0 12S	PG	$78.25	2	DELETED
6515	002867038		SUTURE NONABS 5-0 36S	PG	$50.55	2	DELETED
6515	002901938		SUTURE ABS SZ 3-0 36S	PG	$47.93	2	DELETED
6515	002998736		HOLDER SUTURE NDL 6"	EA	$15.68	4	DELETED
6515	003208500		CONTRACTOR RIB BAILEY	EA	$51.63	1	DELETED
6515	003225600		CURETTE MASTOID SZ3	EA	$34.27	2	DELETED
6515	003225700		CURETTE MASTOID SZ5	EA	$38.89	2	DELETED
6515	003276100		ELEVATOR DURA FRAZIER	EA	$22.50	1	DELETED
6515	003279400		ELEVATOR SET LARGE	SE	$68.81	1	DELETED
6515	003311300		FORCEPS BONE 10.25"LG	EA	$209.30	2	DELETED
6515	003313600		RONGEUR 8.75"LG ANG	EA	$239.32	1	DELETED
6515	003314200		RONGEUR HORSLEY 5.75"	EA	$126.11	1	DELETED
6515	003323300		FORCEPS TRACH TU ADL	EA	$9.01	4	DELETED
6515	003326200		FORCEPS HEMO RAINEY	EA	$66.73	3	DELETED
6515	003333600		FORCEPS DRESSING 5.5"	EA	$10.99	6	DELETED
6515	003344300		FORCEPS HEMO 6-6.50"	EA	$13.99	12	DELETED

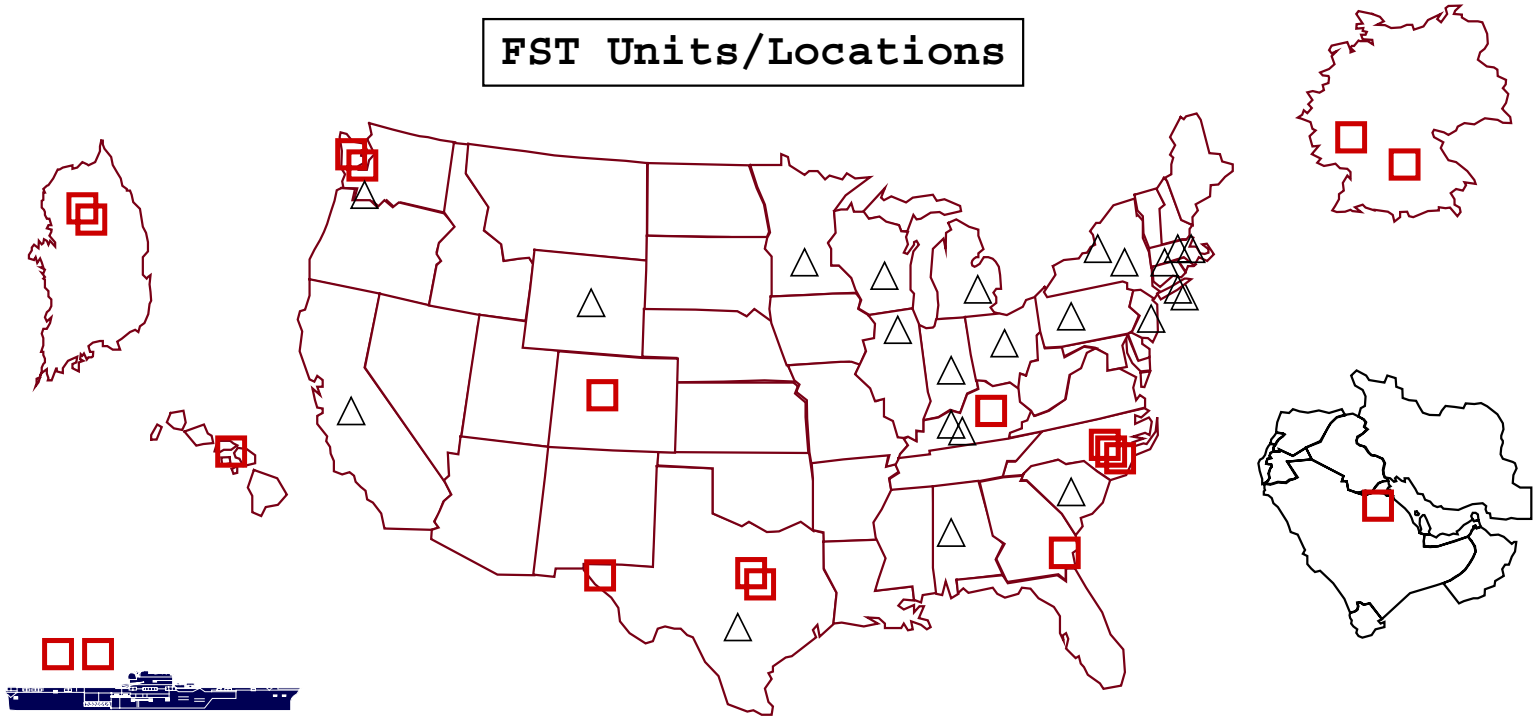
6515	003345600		FORCEPS HEMO STR 5"LG	EA	$6.27	8	DELETED
6515	003351900		FORCEPS INTESTINAL8.7	EA	$66.02	4	DELETED
6515	003352900		FORCEPS BABCOCK 7.75"	EA	$17.06	8	DELETED
6515	003353200		FORCEPS INTEST8.7-9.2	EA	$20.91	4	DELETED
6515	003353500		FORCEPS TISSUE 7.5"LG	EA	$22.52	4	DELETED
6515	003355800		FORCEPS KIDNEY9.2-9.5	EA	$163.02	4	DELETED
6515	003406700		HAMMER REFLEX TESTING	EA	$2.20	1	DELETED
6515	003421400		HOOK BRAIN DISSECT 8"	EA	$23.07	2	DELETED
6515	003460480		LARYNGOSCOPE CHILD SZ	EA	$89.46	3	DELETED
6515	003553300		PERIOSTEOTOME 8.25"	EA	$111.89	2	DELETED
6515	003603490		RETRACTOR ABDOM 1X12"	EA	$42.66	2	DELETED
6515	003603530		RETRACTOR ABDOM 2X12"	EA	$50.06	2	DELETED
6515	003604910		RETRACTOR ABDOM LARGE	EA	$984.76	2	DELETED
6515	003617250		RETRACTOR RIB MEDIUM	EA	$117.30	2	DELETED
6515	003618980		RETRACTOR TRACH3PRONG	EA	$7.23	2	DELETED
6515	003631100		SAW AMPUTATING 8"LG	EA	$52.40	1	DELETED
6515	003640520		SCISSORS MAYO 6.5-7"	EA	$20.54	6	DELETED
6515	003640920		SCISSORS MAYO 6.50-7"	EA	$18.97	4	DELETED
6515	003644600		SCISSORS IRIS 4" LG	EA	$16.07	4	DELETED
6515	003746900		ELEVATOR 9X.312"	EA	$41.65	1	DELETED
6515	003830565		TOURNIQUET 42.5X1.531	EA	$5.91	4	DELETED
6515	004588416		CATHETER&CON TRAC50S	PG	$18.10	1	DELETED
6515	004627348		SYRINGE HYPO 3ML 100S	PG	$66.65	1	DELETED
6515	004822833		SUTURE ABS SZ 4-0 36S	PG	$75.19	2	DELETED
6515	005843738		FORCEPS TISSUE 4.5"LG	EA	$46.61	4	DELETED
6515	006645399		CHISEL BONE 8.125"LG	EA	$50.55	1	DELETED
6515	006645400		CHISEL BONE 8.125"LG	EA	$45.25	1	DELETED
6515	006647853		RETRACTOR SE GEN OPER	SE	$57.32	2	DELETED
6515	006903195		CLAMP ARTERY 12.25"LG	EA	$197.68	2	DELETED
6515	006903197		CLAMP ARTERY 7.5"LG	EA	$148.56	1	DELETED
6515	006903200		HOLDER SUTURE NDL 9"	EA	$103.10	4	DELETED
6515	006903208		FORCEPS TISSUE 7.75"	EA	$17.60	4	DELETED
6515	006903209		FORCEPS TISSUE 9.5"LG	EA	$27.63	4	DELETED
6515	006903212		CLAMP ARTERY 65MM JAW	EA	$198.21	2	DELETED
6515	006903213		CLAMP ARTERY 7"LG	EA	$123.93	2	DELETED
6515	006903215		CLAMP ARTERY 9CM LG	EA	$111.69	2	DELETED
6515	006903216		CLAMP ARTERY 9CM LG	EA	$41.11	2	DELETED
6515	006903223		SCISSORS GEN SURG 7.5	EA	$59.06	2	DELETED
6515	006903224		SCISSORS GEN SURG7.5"	EA	$76.84	2	DELETED
6515	006903225		CLAMP ARTERY 70MM JAW	EA	$72.22	1	DELETED
6515	006903227		CLAMP ARTERY 10.5"LG	EA	$74.63	1	DELETED
6515	006903238		CLAMP ARTERY 30MM JAW	EA	$90.21	1	DELETED
6515	007542835		NEEDLE HYPO 22GA 100S	PG	$5.18	1	DELETED
6515	007542836		NEEDLE HYPO 20GA 100S	PG	$3.67	1	DELETED
6515	008901681		CLAMP ARTERY 6.5CM LG	EA	$39.09	2	DELETED
6515	008901682		CLAMP ARTERY 6.5CM LG	EA	$39.09	2	DELETED

6515	009051473		APPLICATOR DISP 2000S	PG	$19.40	1	DELETED
6515	010085209		CATHETER&NDL 14GA 50S	PG	$79.96	1	DELETED
6515	010087107		SUTURE ABS SZ 1-0 36S	PG	$106.30	5	DELETED
6515	010437015		SUTURE NONABS 2-0 12S	PG	$211.00	2	DELETED
6515	010500207		CATHETER&NDL D12 50S	PG	$43.61	1	DELETED
6515	010604280		SCISSORS GEN 5.75" LG	EA	$20.38	2	DELETED
6515	010758288		SUTURE NONABS 2-0 36S	PG	$101.85	4	DELETED
6515	010764713		TROUSERS ANTI-SHOCK	EA	$380.40	1	DELETED
6515	010920041		SYRINGE HYPO140ML 20S	PG	$51.73	2	DELETED
6515	010985770		STETHOSCOPE 24FR 20S	PG	$124.53	2	DELETED
6515	011250121		AIRWAY NASOPHARYNGEAL	PG	$97.45	1	DELETED
6515	011264031		CUFF SPHYGMOMAN CHILD	EA	$18.78	2	DELETED
6515	011346649		RETRACTOR RIB BURFORD	EA	$795.03	2	DELETED
6515	011397642		RETRACTOR STERNUM	EA	$122.77	2	DELETED
6515	011398190		CLAMP COARCTATION STR	EA	$44.81	2	DELETED
6515	011398213		FORCEPS HEMO 5.5" LG	EA	$29.65	8	DELETED
6515	011398939		FORCEPS THORACIC 11"	EA	$154.86	2	DELETED
6515	011399084		CLIP HEMO MEDIUM 216S	PG	$141.03	1	DELETED
6515	011399104		CLIP HEMOSTATIC 108S	PG	$108.98	1	DELETED
6515	011399109		SUTURE NONABS SZ0 36S	PG	$23.55	5	DELETED
6515	011432880		SUTURE ABS 2-0 36S	PG	$61.10	2	DELETED
6515	011467794		TOURNIQUET ADULT14X1"	EA	$3.98	8	DELETED
6515	011487007		CHEST PC STETH CHILD	EA	$13.01	2	DELETED
6515	011507842		SUPPORT CERVICAL22X8"	EA	$6.54	2	DELETED
6515	011534840		CUFF SPHYGMOMANOMETER	EA	$10.61	1	DELETED
6515	011535084		HUMIDIFER OXYGEN 50S	PG	$56.00	1	DELETED
6515	011535584		MASK ORONASAL CHILD50	PG	$100.23	1	DELETED
6515	011535721		SUTURE ABS SZ0 GEN36S	PG	$89.16	1	DELETED
6515	011562603		CLIP HEMO 2.5MM LG36S	PG	$129.01	1	DELETED
6515	011621962		SUTURE ABS SZ 1 1DZ	DZ	$112.93	2	DELETED
6515	011648883		FORCEPS BONE 9.75" LG	EA	$190.23	2	DELETED
6515	011648884		HOLDER SUTURE NDL 10"	EA	$54.78	4	DELETED
6515	011651133		SUPPORT TRACHEAL TUBE	EA	$20.55	2	DELETED
6515	011676670		FORCEPS HEMO 7.50" LG	EA	$117.02	2	DELETED
6515	011676672		FORCEPS HEMO15D5.75"M	EA	$108.50	2	DELETED
6515	011676675		FORCEPS HEMO LARGE	EA	$71.05	2	DELETED
6515	011677287		SUCTION APPAR120/230V	EA	$3,646.10	2	DELETED
6515	012104484		CLIP HEMO RANEY 12S	PG	$17.28	4	DELETED
6515	012331888		SUTURE ABS SZ0 27"12S	PG	$42.78	2	DELETED
6515	012370530		SUTURE ABS SZ 4-0 3DZ	DZ	$30.70	3	DELETED
6515	012451871		SYRINGE CARTRIDGE 3"	EA	$6.06	6	DELETED
6515	012513744		SUTURE ABS SZ2-0 24S	PG	$150.16	2	DELETED
6515	012591734		SUTURE NONABS 2-0 24S	PG	$106.43	2	DELETED
6515	012648439		DRAINAGE UNIT 72"L 6S	PG	$347.53	3	DELETED
6515	012830161		RESUSCITATOR INFANT	EA	$280.00	1	DELETED
6515	012899813		CATHETER THORACIC 10S	PG	$146.03	1	DELETED

6515	012931880		NEEDLE SUTURE SZ2 72S	PG	$115.37	1	DELETED
6515	013003530		STIMULATOR PRPHRL NRV	EA	$144.94	2	DELETED
6515	013083963		CATHETER THOR 20FR10S	PG	$170.00	1	DELETED
6515	013386602		RESUSCITATOR HAND OPR	EA	$367.33	8	DELETED
6515	013632512		TUBE ASSY INHALER 15S	PG	$31.72	5	DELETED
6515	013656206		MASK ORONASAL PED 50S	PG	$109.72	1	DELETED
6515	013724497		TUBING EXT BLOOD 50S	PG	$107.35	1	DELETED
6515	013879457		HUMIDIFIER HYGROSCOPI	EA	$106.99	16	DELETED
6515	013967366		EMERGENCY SET INJURY	EA	$655.51	4	DELETED
6515	014123099		SYRINGE HYPODERMIC20S	PG	$10.49	6	DELETED
6515	014149280	M66558	MONITOR PATIENT VITAL	EA	$21,274.32	2	DELETED
6515	014182346	M79195	MONITOR PT VITAL SIGN	EA	$14,794.55	6	DELETED
6515	014396344		CATHETER&NDL UN IV22G	PG	$195.00	1	DELETED
6530	000797039		INDICATOR STEAM 250S	PG	$2.55	1	DELETED
6530	007717025		BEDPAN OVAL SHAPE CRS	EA	$50.75	1	DELETED
6530	007725935		BRUSH SURGICAL SCRUB	EA	$2.00	5	DELETED
6530	010324089		DRAPE SURG6'X44IN 20S	PG	$48.53	2	DELETED
6530	012422337		TAPE SEAL STER2160X1"	PG	$18.86	1	DELETED
6530	012449946		WRAPPER STER 36X36"6S	PG	$49.75	4	DELETED
6530	012779424		DISPOSAL CO2GL CAP 20	PG	$44.00	1	DELETED
6530	013171131		PAD HEATING CHEMICAL	EA	$2.47	10	DELETED
6530	013259299		VENTILATOR VOL PRTBLE	EA	$7,631.10	4	DELETED
6530	013344379		BRUSH-SPONGE SURGICAL	PG	$128.47	1	DELETED
6532	004056009		SURG PCK GOWN&TOWEL28	PG	$119.54	1	DELETED
6545	009259220		TRAY MED INST&SUPP SE	EA	$130.17	2	DELETED
6640	010689613		TUBE CAPILLARY 500S	PG	$19.22	1	DELETED
6640	012052422		CENTRIFUGE LAB BAT 9V	EA	$1,232.80	1	DELETED
6680	011746276		REGULATOR PRESS GAS	EA	$80.65	1	DELETED
6840	005261129		DISINFECTANT-DET 1GAL	BT	$23.87	1	DELETED
6840	009269117		DISINFECTANT GEN 1GAL	PG	$13.18	2	DELETED
8120	005508484		YOKE-ADAPTER FLUSH	EA	$26.66	4	DELETED
8415	014156956		GLOVES HEAT PROTECT	PG	$52.16	1	DELETED
8455	007725345		BRASSARD RED CROSS	EA	$7.82	12	DELETED

Note. 113 Additions to the 2002 UA & 189 deletions from the 1996 UA. 2002 UA has 370 line items and 1996 UA had 445 line items.

Appendix D



ARMY RESERVE			
UNIT	CITY	ST	YR
0946	MOBILE	1AL	1998
0947	HARTFORD	1CT	1997
0909	FT SHERIDAN	1IL	1997
0932	FT HARRISON	1IN	1997
0936	PADUCAH	1KY	1997
0933	PADUCAH	1KY	1997
0402	BOSTON	1MA	1997
0912	WORCESTER	1MA	1998
0948	SOUTHFIELD	1MI	1997
0945	FT SNELLING	1MN	1997
0625	PEDRICKTOWN	1NJ	2000
0001	FT TOTTEN	1NY	1997

ARMY RESERVE			
UNIT	CITY	ST	YR
1982	NIAGARA FALLS	1NY	1997
0848	BROOKLYN	1NY	1998
0691	UTICA	1NY	1998
0629	BLACKLICK	1OH	1998
0624	ERIE	1PA	1998
0874	FT JACKSON	1SC	1998
0911	MADISON	1WI	1997
1980	OAKLAND	5CA	1997
0628	SAN ANTONIO	5TX	2001
0934	SALT LAKE	5UT	1997
0915	VANCOUVER	5WA	1998

AC CONUS			
UNIT	CITY	ST	YR
0240	FT STEWART	1GA	1997
0274	FT BRAGG	1NC	1997
0002	FT CARSON	5CO	2000
0126	FT HOOD	5TX	1997
0745	FT BLISS	5TX	2000
0555	FT HOOD	5TX	1997
0102	FT LEWIS	5WA	2001
0250	FT LEWIS	5WA	1997
0002	FT BRAGG	1NC	1997
0082	FT BRAGG	1NC	1996
0801	FT CAMPBELL	1KY	1996

DIVISIONAL ASSETS

AC OCONUS			
UNIT	CITY	ST	FY
0160	LANDSTUHL	GM	1999
0067	GIEBELSTADT	GM	1996
0008	SCHOFIELD	HI	1997
0135	YONGSAN	KS	1997
0127	YONGSAN	KS	1997

APS-3	
SHIP	YR
USS DAHL	1999
USS RED CLOUD	1999

LEGEND

Active

Army Reserve

DEPARTMENT OF THE ARMY
HEADQUARTERS, U. S. ARMY TRAUMA TRAINING CENTER
RYDER TRAUMA CENTER
P.O. BOX 016960
MIAMI, FLORIDA 33136

This Lesson Plan last updated March 10, 2002

Trauma Team Training – The "Super Bowl Event"
(Block of Training Time: 48 hours)

PRESENTED TO: Rotating Forward Surgery Team including 3 General Surgeons (61J), one Orthopedic Surgeon (61M), 2 Certified Registered Nurse Anesthetists (66F), one Intensive Care Unit Nurse (66H8A), one Emergency Room Nurses (66HM5), one Operating Room Nurse (66E), one Administrative Officer (70B), 4 Licensed Practical Nurses (91WM6), 3 Emergency Medical Technicians (91W), and 3 Operating Room Technicians (91D), Ryder Trauma Center (RTC) Fellows and University of Miami residents who are rotating on the trauma service are participants as are RTC resuscitation nurses.

PLACE: RTC Trauma Resuscitation Unit (TRU), Operating Room (OR), and Post-Anesthesia Care Unit (PACU).

TIME: The last Friday and Saturday nights of the rotation.

REFERENCES:
1) How WS, Reilly PM, Rotondo MF. The importance of the command-physician in trauma resuscitation. J Trauma. 1997;43:772-777.

RELATED SOLDIER'S MANUAL / MOS TASK (S): See FM 8-518-10

STUDY ASSIGNMENT:

STUDENT UNIFORM AND EQUIPMENT: Scrubs, eye protective wear

TOOLS, EQUIPMENT AND MATERIALS: stethoscope, trauma shears

PERSONNEL: All members of the FST will participate

INSTRUCTIONAL AIDS: None

TROOP REQUIREMENTS: None

TRANSPORTATION REQUIREMENTS: None

RISK ASSESSMENT LEVEL: Low

SAFETY REQUIREMENTS: Standard universal blood precautions will be practiced at all times when evaluating and treating patients.

METHOD OF INSTRUCTION: Hands-on clinical care

OPENING STATEMENT: The mission of the Army Trauma Training Center is to ensure the clinical readiness of the U.S. Army Forward Surgical Teams. In the crawl-walk-run (individual-section-team) progressive training philosophy that the ATTC rotation is based on, this "Superbowl Event" is the culminating team training exercise designed to test all aspects of the team's prior experience. The intent is to draw upon individual and section skills that have been honed in the previous 3.5 weeks in order to exercise team leadership skills. Individuals must work together efficiently and effectively as sections, and section leaders must communicate effectively with teammates to process patients through all phases of care. Team leaders must manage the 3 sections effectively in order to sustain continuous operations for 48 hours. Essentially, all trauma admissions to the RTC over this period of time will be the responsibility of the FST; surgeons and nurses must step to the forefront and accept the primary management role in patient resuscitation, evaluation, and operation. The team should function as if they were isolated in a deployed setting without outside assistance. The RTC staff, including the attending staff, housestaff, nursing, and ancillary staff will provide sufficient assistance to ensure maintenance of patient care standards and documentation but will encourage FST members to make most management decisions.

TERMINAL LEARNING OBJECTIVES:
1) To efficiently resuscitate severely injured patients in the team approach as described by Hoff et al.
2) To effectively evaluate severely injured patients without missed injuries.
3) To triage patients as appropriate.
4) To be able to manage multiple patients simultaneously in various phases of care while communicating needs to chain of command.
5) To be able to recognize level of patient stability for air evacuation.
6) To be able to estimate and predict supply utilization.
7) To be able to track multiple patients through the phases of care.

ENABLING LEARNING OBJECTIVES:
1) To establish roles and responsibilities for team members.
2) To be able to estimate injury severity as related to manpower resources.
3) To establish work-sleep cycles and recall procedures that will ensure the availability of adequate personnel resources when needed.
4) To be able to deliver a twice daily Situation Report.
5) To be able to call for medical evacuation and critical care transport teams.
6) To be able to track blood and supply utilization.

CLASS / LAB PROCEDURE AND TIE-IN: Mastery of the knowledge and skills contained in this block of instruction are essential to the optimal performance of military forward team surgeons and, consequently, to the outcomes of the patients they serve.

METHOD OF INSTRUCTION (Rules of Engagement):

1) The FST takes responsibility for patient care beginning at 0700 on Friday and continues for 48 hours until 0700 Sunday morning.
2) All trauma admissions are the responsibility of the FST commander and his team members throughout the resuscitation, evaluation, operation, post-op, and non-operative care until patients can be notionally “evacuated”.
3) All FST patient care documentation will be completed as per unit SOP and turned-in to the ATTC staff during the AAR on Sunday morning.
4) RTC staff (including attending, housestaff, nursing, and ancillary staff) will assist as needed but reserve the absolute right to back the primary role at any time (without discussion) as they deem appropriate or necessary.
5) In most situation, FST members should consult with the Army clinical or administrative chain of command and before consulting with the RTC staff or ATTC staff.
6) Routine (notional) evacuation will be every 8 hours. All patients to be evacuated must be cleared by the FST Commander of Chief Nurse who will then clear it with the notional Chief, Medevac (ATTC Director of Chief Nurse). All patients to be evacuated must be accompanied by a Medevac request form. Once patients are notionally evacuated, responsibility for further care can be relinquished to the RTC staff.
7) Situation Reports will be provided to the ATTC Director every 12 hours at 0700 and 1900.
8) Blood utilization as well as expendable and durable supply usage will be tracked and push packages requested (to the ATTC Director) as per unit SOP.

METHOD OF EVALUATION:

1) Individuals will be evaluated as to fund of knowledge, attention to detail, judgment, and organization/leadership in regards to filling one or more positions in the resuscitative, operative, or post-operative sections.
2) Section leaders will be evaluated on their:
    a. Assertiveness and ability to assume a primary management role
    b. Communication and ability to coordinate with other section leaders to maintain efficient and effective patient flow through the various phases of care
    c. Communication and ability to keep chain of command informed
    d. Leadership and ability to organize personnel and resources
    e. Attention to detail and ability to safely manage seriously injured patients
    f. Judgment and ability to make reasonable management, including evacuation, decisions
3) FST leaders will be evaluated on all the above plus:
    a. Ability to motivate, stimulate, and educate team members
    b. Ability to organize work-sleep shifts and recall rosters
    c. Ability to maintain 48-hour continuous operations

4) The administrators will be evaluated on their ability to:
    a. Provide timely, accurate, and complete reports
    b. Ability to track patients and sensitive items
    c. Ability to track blood utilization and supply expenditure

Point of contact: The undersigned at 305-585-1178

Tom Knuth
LTC(P), MC
Director, Army Trauma Training Center
Ryder Trauma Center, PO Box 016960
Miami, Florida 33101

Appendix F

Forward Surgical Team Organizational Structure

Position	Rank	MOS / AOC	Authorized Strength
Triage-Trauma Management			
General Surgeon (FST Commander)*	LTC	61J00	1
General Surgeon*	MAJ	61J00	2
Orthopedic Surgeon*	MAJ	61M00	1
Critical Care Nurse (FST Head Nurse)	MAJ	66H8A	1
Emergency Medical Treatment NCO	SGT	91B20	1
Medical Specialist	SPC	91B10	1
Medical Specialist	PFC	91B10	1
Surgery Element			
Nurse Anesthetist	CPT	66F00	2
Operating Room Nurse (OR Team Leader)	CPT	66E00	1
Senior Operating Room NCO	SSG	91D30	1
Operating Room NCO	SGT	91D20	1
Operating Room Specialist	SPC	91D10	1
Nursing			
Medical Surgery Nurse (Recovery Team Leader)	CPT	66H00	1
Practical Nurse	SSG	91C30	3
Operations Staff			
Field Medical Assistant (Operations Officer)	1LT	70B67	1
Emergency Medical Treatment NCO (FST NCOIC)	SFC	91B40	1

Note. Also a part of Surgery Element.

Note. Information obtained from FM 8-10-25, Employment of Forward Surgical Teams – Tactics, Techniques, and Procedures dated 30 September 1997 at http://www.adtdl.army.mil/cgi-bin/ atdl.dll/fm/8-10-25/1025ch2.pdf

Appendix G

Listing of the ATTC's Unauthorized Equipment Listing (UEL)

ID	Item	Company	ARC*
1	Temperature-sensing foley catheter tray	C. r. Bard Inc.	D
2	Pleur-Evac (Autotransfusion bag)	Deknatel DSP	D
3	Infusion pump (IV) Portable	Infusion Dynamics, Inc	D
4	Butt binder for pelvic fractures	Marketresearch.com	D
5	External fixation device	Marketresearch.com	D
6	Auto transfusion set up for chest tubes	Deknatel DSP	D
7	Vascular instruments (Bulldog, fine ceps)	Marketresearch.com	D
8	Laceration Tray	E. M. Adams CO.,INC	D
9	Kit, Intracranial Pressure monitor	Abbott Critical Care Systems	D
10	EVD system with burette sampling	Integra NeuroSciences	D
11	Cranial access Kit	Integra NeuroSciences	D
12	Pneumostat	Atrium medical corporation	D
13	Cordis introducer	ARROW	D
14	Double-lumen ETT	various manufacturers	D
15	Prostoscope	various manufacturers	D
16	Black and decker, update hoffman II set	Black and Decker	D
17	Stryker (Compartment pressures)	Stryker Corporation	D
18	Casualty blankets	various manufacturers	D
19	Doppler (hand held)	Armstrong Medical	N
20	Ultrasound machine (Portable)	Pyramid Medical	N
21	Portable CO2 detector	Nellcor Puritan Bennett INC	N
22	Upgrade propacs (CO2 monitoring)	Welch Allyn	N
23	Drash-(ECU, generator, trailer)	DHS Systems LLC	N
24	Stringable tent lights, x2	Jamenson	N
25	Thermal angel	estill medical technologies	N
26	Impact uni-vent 745 Eagle x2	impact uni-vent 754 Egle	N
27	Nonin Onyx 9500 pulse Oximeter x4	Ultranebs	N
28	Abbott AIM infusion pump x2	Abbott Critical Care Systems	N
29	Headlights	various manufacturers	N
30	Suction Machine with intermittent suction	various manufacturers	N
31	Arterial fluid warmer	various manufacturers	N
32	Blood collection bags	Ancillary Blood Banking	X
33	Heparin	Elkins-Sinn, INC	X
34	Ioban Lg sheets (Drape)	3M Health Care	X

35	Fogarty catheter (size 4)	Edwards Lifesciences	X
36	Pig skin	Brennen Medical, Inc.	X
37	Silver nitrate	Spectrum Quality Products	X
38	Isolyser LTS-PLUS	Microtek Medical, INC	X
39	Staples (GIA, TA)	Weck Clousure Systems	X
40	DPL Kits	ARROW INTER	X
41	Avitivene + Gel foam	Davol, Inc.	X
42	Biobrane	Bexter Pharmaceutical INC	X
43	Phosphenytoin	Abbott Laboratories	X
44	Insulin	Point Douglas Pharmacy	X
45	Duragesic (Fentanyl Transdermal System)	Alza Corporation	X
46	IV start pak	Becton Dickinson Infusion Therapy Systems Inc.	X
47	BioGlue (Surgical Adhesive)	Cryolife, Inc.	X
48	Argyle carotid stents	Argyle	X
49	Vascular reload for staplers	various manufacturers	X
50	Pressure line/cables	various manufacturers	X
51	Albumin (human) 25% Solution	ZLB Bioplasma Inc.	X
52	Disposable laryngoscope blades	various manufacturers	X
53	Disposable gowns	Stemed Info	X
54	Acticoate (for burns dressings)	westaim biomedical	X
55	Avagard (hand antiseptic)	3M health care	X
56	Codman Disposable Perforator	Codman &Shurtleft, Inc.	X
57	Mepitel (Silicone coated wound contact Layer)	Tendra	X

NOTE.

Accounting Requirements Code (ARC): A code used to indicate the level of accountability for supplies and/or equipment.

N-Nonexpendable: Items not consumed in use, retaining their identity during use, and requiring that accountability be maintained throughout the life of the item. This category consists of end items of equipment which are separately identified.

D-Durable: Non-consumable components of sets, kits, out-fits, and assemblages; all tools in Federal Supply Code's 5110, 5120, 5130, 5133, 5136, 5140, 5180, 5210, 5220, and 5280; and any other non-consumable with a price in excess of $50.00 not already Nonexpendable. This category consists of selected hand tools with a unit price greater than $5.00.
Durable items do not require property book accountability after issue, but do require hand receipt control when issued to the user.

X-Expendable: Items regardless of type classification or price and which are consumed in use. Includes all class 9 repair parts. Items not consumed in use which cost $50.00 or less and not already Nonexpendable or Durable. Expendable items require no formal accountability after issue.