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ESTABLISHING MATERIEL CLINICAL REQUIREMENTS FOR SHIPBOARD TRAUMA CARE

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Establishing Materiel Clinical Requirements for Shipboard Trauma Care

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SUMMARY

Issue

Commander Naval Surface Force Pacific has sponsored efforts to review Independent Duty Corpsman (IDC) surface ship medical materiel requirements. In this effort, clinical requirements were identified and assigned to each piece of shipboard medical materiel for IDC-specific Authorized Minimal Medical Allowance Lists (AMMALs). With the completion of the IDC-specific AMMALs, a knowledge base of shipboard medical events was created.

Objective

In the current study, the medical knowledge base was used to assess and validate each medical item in the remaining AMMALs aboard IDC ships. These remaining AMMALs represent the critical care and trauma materiel used during wartime or emergency events and include the battle dressing station, portable medical locker, emergency response kits, antidote lockers, and first-aid boxes.

Approach

Subject Matter Experts (SMEs) developed treatment briefs for shipboard emergency medical events. Once the treatment profiles were constructed, SMEs assigned the medical materiel required to conduct the clinical tasks described in the treatment profiles. This process established the clinical requirements for items in each of the trauma AMMALs. Items found to have a valid clinical requirement as defined by the mission of each AMMAL were retained. Those found to lack a requirement were dropped from further consideration. New items were added to treatment profile tasks when no current piece of gear could satisfy an identified clinical requirement. Furthermore, SMEs replaced materiel with updated gear more reflective of current standards of care, where appropriate.

Results

Each of the six shipboard trauma care AMMALs were compared with the existing blocks to assess differences in the number of items, weight, cube, and cost. The results, shown in the following tables, indicated that by establishing clinical requirements, overall reductions in weight, cube, and cost of the gear were achieved.

	No. of Items	Weight	Cubic Vol.	Cost
Revised Battle Dressing Station	- 5.4%	-2.9%	-6.5%	-4.5%
Revised Portable Medical Locker	-3.4%	-4.5%	-28.3%	-0.3%
Revised Emergency Response Kit	-23.0%	31.4%	2.5%	22.7%
Revised Jr. Emergency Response Kit	-37.8%	-38.9%	-43.3%	-45.7%
Revised Antidote Locker	0.0%	0.0%	0.0%	-0.3%
Revised 1st Aid Box	-18.2%	-2.5%	-27.0%	-12.1%
Overall	-13.7%	2.1%	-7.1%	-3.1%

These reductions were achieved along with increases in clinical capability not currently available in the trauma AMMALs. The greater drop in items, relative to the other measures, reflects the new, upgraded capabilities incorporated into the revised AMMALs. This occurred because the new technology was often somewhat larger and more costly than the items replaced.

A second examination of the results looked at the underlying factors driving the proposed AMMAL refinements. Each proposed revision was coded to reflect the justification SMEs used when agreeing to add or delete an item. The results showed that item changes occurred primarily because of (1) the failure to identify a clinical requirement or identification of clinical requirements not currently being met, (2) the identification of outmoded technology or the introduction of technologically superior materiel, or (3) the removal of items found to be redundant with other pieces of gear.

Conclusions

The results presented in this paper demonstrate the value of establishing clinical requirements for the medical materiel used by the Fleet's emergency medicine AMMALs. This process led to the removal of items contributing little or no benefit to the mission of the AMMALs, thereby freeing space for items that can increase the Fleet's capacity to treat the seriously injured. Furthermore, the efficiency of the medical department is enhanced because there is less materiel to maintain, inventory, rotate, or discard upon expiration. Because fewer items are required, the cost of stocking a ship with its allotment of medical gear is also reduced.

Establishing Materiel Clinical Requirements for Shipboard Trauma Care

INTRODUCTION

Changes in our national and international security environments and advances in technology has led to the reengineering of Navy forces and a reexamination of our wartime strategies.¹ Consideration of the Naval medical system should be addressed as part of this evolution throughout the full spectrum of potential conflicts and operational scenarios. Central to emerging concepts of operation are force superiority, precision engagement, and mission-focused logistics.² Navy health service support falls under the umbrella of mission focused logistics. Efforts to match the delivery of health service support in an environment consistent with a focused logistics approach are currently under way. Progress toward this goal has included efforts to reduce materiel requirements. One part of this process was initiated through a collaborative effort among Commander in Chief U.S. Pacific Fleet (COMNAVSURFPAC), Commander in Chief U.S. Atlantic Fleet, and the Naval Medical Logistics Command during the October 1997 Logistics Standardization Conference. In this effort, conducted within the forum of a medical supply review, substantial reductions in required materiel were instituted fleet-wide.

More recently, COMNAVSURFPAC has sponsored efforts to review Independent Duty Corpsman (IDC) surface ship medical materiel requirements. In this effort, clinical requirements were identified and assigned to each piece of shipboard medical materiel. This process included the identification of patient types, creation of IDC-specific treatment profiles for each patient type, and the assignment of medical materiel to each clinical task identified in the treatment profiles. At the conclusion of this effort, reductions in materiel were achieved for both the IDC core and supplemental Authorized Minimal Medical Allowance Lists (AMMALs) and for one of the two shipboard IDC laboratory AMMALs. Furthermore, each piece of gear remaining in all four AMMALs was validated with a clearly defined clinical requirement.³

With the completion of the IDC specific AMMALs, a knowledge base of shipboard medical events was created, a comprehensive set of shipboard Patient Conditions (PCs) was identified, treatment profiles were prepared, and each medical supply item attached to the profiles was validated. In the current study, this methodology was used to assess the remaining AMMALs aboard IDC ships. These remaining AMMALs represent the critical care and trauma materiel used during wartime or emergency events and include the Battle Dressing Station(BDS), Portable Medical Locker (PML), the Emergency Response Kit (ERK), the Junior Emergency Response Kit(JRERK), antidote lockers, and first-aid boxes. Unlike the IDC specific AMMALs reviewed in the earlier study, these supply blocks are present on the majority of Navy platforms including submarines, amphibious assault ships, and aircraft carriers.

METHOD

Six of the surface Fleet's AMMALs were examined in the current study. These included the BDS (AMMAL 0955), the PML (AMMAL 0964), the ERK (AMMAL 0924), the JRERK (AMMAL 0944), the first aid box (AMMAL 0927), and the antidote locker (AMMAL 0925).

This study represents the second phase of a two-part study. The first phase of the study was an examination of the Fleet's IDC-specific AMMALs.³ The current study, phase 2, will present the results of the examination of the Fleet's shipboard trauma supply sets.^a The following discussion of methodology presents the procedures of the study pertinent to phase 2.

Participants

The data for both phases of the study were collected simultaneously. Therefore, the same participants were used in both phases. These participants included 56 clinicians experienced in shipboard medicine and combat casualty care. These Subject Matter Experts (SMEs) were drawn from seven medical commands (Table 1). The medical specialties within this group of SMEs consisted of 26 IDCs, 7 physicians, 5 GMOs, 2 physician's assistants, 1 pharmacist, 1 nurse, 6 IDC instructors, 2 force master chiefs, and 6 laboratory technicians. Most SMEs had shipboard operational experience as senior medical department representatives.

Table 1
Subject Matter Expert Command Representation

Regional Support Office	COMNAVSURFPAC Force Medical
Naval Medical Center San Diego	Naval School of Health Sciences
Surface Warfare Medicine Institute	Naval Medical Logistics Command
Joint Readiness Clinical Advisory Board	

Procedures

The development of the shipboard treatment briefs was completed during the study of the IDC specific AMMALs. The process of developing the briefs began with the identification of the clinical events known to occur on Navy ships. The Joint Readiness Clinical Advisory Board (JRCAB) has identified 319 triservice PCs covering battle injuries, diseases, and nonbattle injuries known to occur during military operations.⁴ A subset of these PCs, those describing battle and nonbattle trauma, were used in the current study. This subset was reviewed by SMEs to ensure that the PCs fully described the range of traumatic events known to occur aboard ship. To account for the full range of potential shipboard events, the SMEs added four new trauma related PCs, including smoke inhalation; electric shock; ingestive, inhalative, and contact poisoning; and decompression sickness. Appendix A lists the trauma PCs.

Before treatment briefs could be prepared for the PCs, the clinical mission of shipboard areas where the medical supply blocks used to treat the PCs are stored was identified. This was done so that a uniquely tailored protocol could be written for each PC that reflected the capability of the various treatment locations aboard ship. SME panels were again formed to determine which of the ship's medical stocks could potentially address each of the PCs. These panels examined each PC and determined which supply block, including the BDS, PML, ERK, JRERK, first-aid box, or antidote locker, had the appropriate treatment capability. Appendix A also shows the

^a Trauma in this study is used to refer to that class of shipboard events that include battle injuries, nonbattle injuries, and battle fatigue.

shipboard treatment areas and the supply blocks from which treatment for each of the trauma-associated PCs could be performed.

Once the potential treatment locations were identified for each PC, treatment protocols were prepared. SME panels were again formed to examine the PCs within the context of the clinical capability of a ship's various treatment locations and medical supply blocks. The clinical processes carried out by IDCs were diagrammed for each PC. Then each of the clinical processes was broken down into individual steps representing the specific tasks required to administer care. An example of one of the trauma injury treatment briefs, PC 087, is shown in Table 2.

Table 2
PC 087 Treatment Brief for Each Potential Shipboard Trauma Treatment Location
(Wound Thorax Penetrating w/Rib Fractures & Pneumothorax Severe Respiratory Distress)

Task	Task Description	Location					% of Patients
		BDS	PML	ERK	JRERK	1 st Aid Box	
001	Triage	BDS	PML	ERK	JRERK	1 st Aid Box	100
A2	Remove Casualty from Danger	BDS	PML	ERK	JRERK	1 st Aid Box	100
002	Assess and Evaluate Patient Status	BDS	PML	ERK	JRERK	1 st Aid Box	100
006	Ensure Adequate Airway	BDS	PML	ERK	JRERK	1 st Aid Box	100
A12	Occlude Sucking Chest Wound	BDS	PML	ERK			100
Z014	Insert Endo Tracheal Tube	BDS		ERK			10
007	Emergency Cricothyroidotomy	BDS					15
ZZ03	Perform Needle Thorocostomy	BDS					25
Z042	Insert Chest Tube	BDS					100
022	O ₂ Administration-Continuous	BDS		ERK			100
Z037	Maintain on Bag Valve Mask	BDS	PML	ERK			100
019	Emergency Control of Hemorrhage	BDS	PML	ERK	JRERK	1 st Aid Box	100
024	Measure Vital Signs	BDS	PML	ERK	JRERK		100
221	Perform Pericardiocentesis	BDS					15
017	Perform Suction (Oral/Tracheal)	BDS					60
049	Start/change IV infusion Site	BDS	PML	ERK			100
050	Administer IV Infusion	BDS	PML	ERK			100
071	Insert Naso-gastric Tube	BDS					40
145	Administer Appropriate Medication	BDS		ERK			100
Z027	Perform CPR	BDS	PML	ERK	JRERK		20
999	Perform Morgue Care	BDS	PML				10
748	Assemble Material/Clean-up	BDS	PML	ERK	JRERK	1 st Aid Box	100

It can be seen from Table 2 that the treatment tasks are matched to clinical care of the provider, and to the medical mission and capability of the treatment area. For example, the treatment profiles for trauma casualties in the BDS are the most comprehensive, which matches the mission of this AMMAL as the most trauma supply intensive. As the clinical capability of the treatment area decreases, so does the clinical complexity of the brief. This is illustrated in some of the differences between the PML and JRERK where, for example, IVs may be administered if treatment is performed from a PML but not when performed using the JRERK.

To provide a more accurate assessment of the quantity of materiel each of the PCs would consume during the treatment process, 4 additional fields developed by the JRCAB, were added to the database. Because the same PC can potentially present with slightly varied clinical manifestations, a field designed to capture these sensitivities was included. This field, labeled %

of Patients, is shown in Table 2. The values in this field represent the percentage of patients who might receive each of the tasks. For example, it can be seen in Table 2 that 100% of patients with PC 087 will receive treatment to control hemorrhage. However, difficulty in achieving or maintaining an airway that would result in the necessity to perform a cricothyroidotomy has a lesser probability of occurrence and therefore a lower value in the *% of Patients* field. By capturing these subtleties, greater precision in estimating supply requirements is achieved.

Additional fields were included in the database to capture changes in supply consumption based upon the estimated length of stay at the treatment site and the number of times each task could be expected to be performed during the treatment process. Data estimating the potential length of stay are important because of the variation in treatment time and patient holding between treatment locations. In addition, a field was created to record the number of times each task could be expected to be performed during the anticipated treatment cycle.

Once the treatment profiles were constructed, the medical materiel required to conduct the tasks in the profiles was determined. SMEs were again consulted. The tasks were presented to the SMEs, and the appropriate mix of materiel was assigned to each. Where suitable, SMEs were asked to select the items needed from the existing AMMALs to minimize unnecessary change. When clinical requirements could not be achieved with current items because of advances in medical technology or changes in standards of care, new items were added. Each time a new item was added, it was selected from the Department of Defense (DoD) triservice approved inventory of medical materiel supplied by JRCAB. Appendix B lists the trauma related clinical tasks and the supplies required to conduct them.

During this phase of the study, the clinical requirements for each item on the IDC platforms were identified. The items used by IDCs in six AMMALs under investigation were then separated into either the BDS, PML, ERK, JRERK, First Aid Box, or Antidote Locker and analyzed to assess the significance of the changes.

RESULTS and DISCUSSION

The data were examined to provide four primary views of the results. The first was an examination of the treatment profiles developed by the SMEs. These profiles were used to determine the domain of trauma-related medical tasks conducted by IDC level-practitioners and the shipboard treatment areas where these tasks could be performed. The second examination extracted the validated medical materiel from the task-supply assignments prepared by the SMEs. The extracted medical items were organized to produce the six revised AMMALs. The third examination was conducted to obtain measures of effectiveness. These measures yielded weight, cube, and cost differences between current and revised AMMALs. Finally, the data were examined to ascertain the underlying factors driving the proposed AMMAL refinements.

IDC Trauma Treatment Tasks and Shipboard Treatment Area Capability

The treatment profiles were examined to determine what trauma-related medical tasks IDCs perform aboard ship. Table 3 shows the domain of IDC-level tasks that were extracted from the profiles. Using the medical supply assignments the SMEs made to the tasks, the shipboard

treatment area capabilities were also determined. It can be seen in Table 3 that treatment site exerts a fairly substantial effect on the types of tasks performed.

Table 3
Shipboard Trauma Tasks and Locations Performed

Task	Trauma Tasks	Battle Dress Sta.	Portable Med Lckr.	Emer Res-ponse Kit	Jr Emer Response	Antidote Locker	1 st Aid Box
001	Triage	✓	✓	✓	✓		✓
002	Assessment and Evaluation of Patient Status	✓	✓	✓	✓	✓	✓
005	Remove And Collect Belongings, Valuables, and Equipment	✓	✓				
006	Establish Adequate Airway	✓	✓	✓	✓	✓	✓
007	Emergency Cricothyroidotomy	✓		✓			
010	Neurological Assessment	✓	✓	✓	✓		
011	Stabilize Neck (Collar/Spine Board)	✓	✓	✓	✓		
017	Suction (Oral/Tracheal)	✓		✓			
019	Emergency Control of Hemorrhage	✓	✓	✓	✓		✓
022	O ₂ Administration Setup	✓		✓			
023	O ₂ Administration Continuous (Nasal/Mask)	✓		✓			
024	Vital Signs	✓	✓	✓	✓		
046	Maintain Chest Tube Suction	✓		✓			
049	Start/Change IV Infusion Site	✓	✓	✓			
050	IV Infusion, Change Bottle	✓	✓	✓			
064	Venous Cutdown	✓					
070	Bowel Sounds Assess	✓	✓	✓	✓		
071	Insert Naso/Oro-Gastric Tube	✓					
073	Maintain Naso-Gastric Suction	✓					
079	Catheterization, Foley	✓					
084	Shave and Prep	✓					
086	Clean and Dress Wound	✓	✓	✓	✓		✓
092	Apply Ace Bandage	✓	✓				
093	Extremity Elevation	✓	✓	✓	✓		✓
096	Apply Sling	✓	✓	✓	✓		✓
098	Apply Splint, Immobilize Injured Extremity	✓	✓	✓	✓		✓
099	Closed Reduction (Finger, Thumb, Toe)	✓					
100	Closed Reduction of Fractured Radius and Ulna	✓	✓	✓	✓		✓
103	Circulation Check	✓	✓	✓	✓		
108	Minor Surgical Procedure (Debride/Suture/Incision)	✓	✓				
121	Eye Irrigation	✓					
123	Eye Care (Dressings/Eye Patch)	✓	✓	✓	✓		
125	Sponge/Hyperthermia Treatment	✓	✓	✓	✓		
126	Seizure Care/Precautions	✓	✓	✓	✓	✓	✓
127	Patient Restraint (Gauze, Ties)	✓	✓	✓	✓		✓
145	Administer Appropriate Medication	✓		✓		✓	
204	Provide Patient Safety Special Watch	✓	✓	✓	✓	✓	✓
221	Pericardiocentesis	✓					
248	Force Fluids	✓					
278	Arrange for Patient Evacuation	✓	✓	✓	✓	✓	✓
279	Arrange fnd Document Returns To Duty	✓	✓	✓	✓	✓	✓
359	Induce Local Anesthesia	✓					
467	Fasciotomy	✓					
739	Reduce Fracture	✓	✓	✓	✓		
740	Reduce Dislocation	✓	✓	✓	✓		
748	Assemble Material/Cleanup	✓	✓	✓	✓	✓	✓
802	Initial/Subsequent Non-Surge Debride of Burn/Open Wound	✓	✓	✓	✓		
A2	Remove Casualty From Danger	✓	✓	✓	✓		✓
A6	Apply Tourniquet	✓	✓	✓	✓		
A10	Place in Coma Position	✓	✓	✓	✓	✓	✓

Task	Trauma Tasks	Battle Dress Sta.	Portable Med Lckr.	Emer Res- ponse Kit	Jr Emer Response	Antidote Locker	1 st Aid Box
A12	Occlude Sucking Chest Wound	✓	✓	✓	✓		
A30	Wet/Cold Injury Therapy	✓	✓	✓	✓		
Z014	Intubation/Extubation	✓	✓	✓			
Z027	Cardio Arrest Resuscitation	✓	✓	✓	✓		
Z037	Bag Valve Mask Setup	✓	✓	✓			
Z042	Insert Chest Tube	✓					
Z083	Expose Patient for Exam	✓	✓	✓	✓	✓	✓
Z094	Extremity Traction, Application/Adjust	✓					
Z277	Prepare for Evac Ground/Air	✓					
ZZ01	Induce Vomiting					✓	
ZZ03	Needle Thoracostomy	✓					
ZZ27	Basic Examination Area Setup	✓					

Revised AMMALs 0955, 0964, 0924, 0944, 0927, and 0925

The revised AMMALs were derived from the task-supply assignments prepared by the SMEs. These task-supply relationships provided the clinical requirements justifying the inclusion of the items in the revised AMMALs. Using the clinical requirements, the medical items were grouped to reflect the mission and level of clinical capability of each of the six blocks, resulting in the formation of the BDS AMMAL 0955 (Appendix C), the PML AMMAL 0964 (Appendix D), the ERK AMMAL 0924 (Appendix E), the JRERK AMMAL 0944 (Appendix F), the first aid box AMMAL 0927 (Appendix G), and the antidote locker AMMAL 0925 (Appendix H).

Item, Weight, Cube, and Cost Differences

The six revised AMMALs were then compared with the current AMMALs to assess any differences in item quantity, weight, cube, or cost. Tables 4-8 show these results. Table 4 indicates that in the case of the battle dressing station AMMAL 0955, reductions in the number of items led to predictable declines in weight, cube, and cost. Not reflected in the table is the number of items (16) that were removed because no clinical requirement within the mission of the BDS could be identified. Furthermore, ten new items were added to the AMMAL, resulting in an increase in clinical capability despite the reductions across the four dependent measures. For example, peel-pack percutaneous airway kits, higher capacity syringes to perform needle thoracostomies and pericardiocentesis, and hiemlich valves to augment the chest-tube kits were added as enhancements to the current stock. As part of the process of establishing clinical requirements, the IDC training program curriculum used by the Naval School of Health Sciences to instruct the IDCs in trauma care was reviewed to ensure the materiel proposed could be used with existing clinical skills of the shipboard practitioners.⁵

Table 4
Comparison Between Current and Revised BDS AMMAL 0955

	No. of Items	Weight	Cubic Volume	Cost
Current BDS	112	366.3 lb	29.4 cu. ft.	\$6,676.37
Revised BDS	106	355.8 lb	27.5 cu. ft.	\$6,373.38
Change (%)	-5.4%	-2.9%	-6.5%	-4.5%

Table 5 shows the results for the portable medical locker AMMAL 0964. It can be seen that moderate reductions in the number of items stocked and the weight of the block were realized. This was in contrast to much larger reductions in the physical size of the block. This resulted from the deletion of disproportionately large items and the inclusion of other items that were smaller than those replaced.

As with the BDS, clinical capability was enhanced by the addition of items that increased treatment options. For example, naso-pharyngeal airways were added. Kerlix® was substituted for a gauze product that no longer achieved current standards of care. Hypoallergenic tapes and sutures to complement the minor surgical sets were also incorporated into the revised PML.

Table 5
Comparison Between Current and Revised PML AMMAL 0964

	No. of Items	Weight	Cubic Volume	Cost
Current PML	58	47.2 lb	4.5 cu. ft.	\$1,061.08
Revised PML	56	45.0 lb	3.25 cu. ft.	\$1,057.64
Change (%)	-3.4%	-4.5%	-28.3%	-0.3%

A different pattern of results is reported for the emergency response kit AMMAL. Table 6 shows a large drop in the number of items comprising the kit that is not correspondingly reflected in drops for weight, volume, and cost. Rather, substantial increases occurred in both weight and cost. These results are explained by wide variations in size and cost between the items deleted for lack of a clinical requirement and those added to achieve requirements not currently being met. For example, a number of small items were deleted with the removal of the minor surgical set. Because the mission of the ERK centers around the provision of the ABCs of trauma, the minor surgical sets could not be supported as an adjunct to this level of care. Furthermore, the surgical sets are distributed throughout the ship, including four each in the BDSs, 1 each in the PMLs, and an additional 4 in sickcall. When these smaller items were removed, only modest reductions were reflected in weight and cost. In contrast, one relatively heavy, costly item was added. To enhance provider ability to render the ABCs, an oxygen administration kit, consisting of one D-size oxygen cylinder, a demand valve mask, regulator, oxygen-powered suction canister, and carrying pack was incorporated in the ERK.^b When this item is removed from the analysis, the weight of the ERK drops by 22.8% and the cost by 18.7%, thereby more closely approximating the drop in the number of items.

Table 6
Comparison Between Current and Revised ERK AMMAL 0924

	No. of Items	Weight	Cubic Volume	Cost
Current ERK	47	28.2 lb	14.0 cu. ft.	\$1,164.25
Revised ERK	61	37.1 lb	14.3 cu. ft.	\$3948.50
Change (%)	-23.0%	31.4%	2.5%	22.7%

^b It should be noted that while the weight of the kit increased by 31.4%, the actual increase in load amounted to less than 9 pounds.

The results for the analysis of the junior emergency response kit AMMAL 0944, shown in Table 7, revealed substantial reductions in number of items, weight, size, and cost. As with the ERK, the minor surgical kit was removed, resulting in a sizable reduction in items. Because items supporting the surgical set, such as drapes and blades, were also removed, substantial reductions occurred for the remaining measures as well. Not shown in the table are measures associated with increases in clinical capability incorporated into the revised JERK. For example, nasopharyngeal airways were added, flanged oro-pharyngeal airways that facilitate the concurrent insertion of an oro-gastric tube replaced the non-flanged airway, and structural aluminum malleable splints (SAMs™) for extremity immobilization, were incorporated.

Table 7
Comparison Between Current and Revised JERK AMMAL 0944

	No. of Items	Weight	Cubic Volume	Cost
Current JERK	37	15.8 lb	1.4 cu. ft.	\$383.72
Revised JERK	23	9.7 lb	0.79 cu. ft.	\$208.38
Change (%)	-37.8%	-38.9%	-43.3%	-45.7%

Table 8 shows large percent reductions for the 1st aid box. These reductions, however, were achieved with only a few relatively minor changes. These included replacing the smooth oro-pharyngeal airway with a flanged unit, and the replacement of inferior gauze with Kerlix®. Two items were removed. These included the skin marker and the non-pneumatic tourniquet. SMEs reported that because the first aid box is designed to be used by non-medical personnel, the placement of tourniquets could encourage their inappropriate use, causing further injury. Furthermore, they reported that personnel are instructed in the use of alternative tourniquet techniques, such as pants belts, should this radical approach to hemorrhage control be required.

Table 8
Comparison Between Current and Revised 1st Aid Box AMMAL 9027

	No. of Items	Weight	Cubic Volume	Cost
Current 1st Aid Box	11	8.2 lb	0.6 cu. ft.	\$97.71
Revised 1st Box	9	8.0 lb	0.4 cu. ft.	\$84.95
Change (%)	-18.2%	-2.5%	-43.3%	-13.1%

The final AMMAL examined was the antidote locker. SMEs reported that the items currently in the block were effective in treating the PCs related to exposure to poisons. As a result, only the replacement of the current airway with a clinical superior item was proposed.

When the results for each of the 6 AMMALs were aggregated for the four measures, overall reductions were realized in each category. A total of 38 items was removed. Overall weight decreased by 10 pounds, volume by 3.6 cubic feet, and cost by \$283.98. These values represent the summations for 1 each of the 6 AMMALs. Because the ships in the Fleet carry multiples of each AMMAL, the savings per ship is many times higher.

Underlying Factors Supporting Clinical Requirements

Each revision in the blocks was based on the establishment of an overriding clinical or mission-specific requirement. Because the establishment of such requirements is multi-faceted, various factors may underlie any single adjustment recommended for the supply blocks. As the SMEs debated revisions, various factors were cited justifying changes. To determine what factors were operating, each recommended item revision was examined in terms of the issues that guided the SMEs in their decision-making process. An examination of the two largest AMMALs, the BDS and the PML, showed that the SMEs used 6 primary factors as justifications for their decisions.

Figure 1 shows these results for the BDS AMMAL 0964. Of the 106 total items in the AMMAL, 26 were affected by either a deletion or addition. For these 26 item adjustments, 50 justifications for change were identified. The higher number of justifications is consistent with the study's intent to only implement AMMAL changes where there was an overriding justification to do so. Therefore, the majority of revisions have multiple justifications.

With regard to item deletions, Figure 1 shows that redundancy was the most frequently cited justification. These items were removed from the BDS because they performed similar functions with other items in the block and therefore did not contribute to clinical capability. It can be further seen from the figure that items were also removed because they failed to meet a known BDS clinical requirement. This justification applied, for example, to the 18-gauge hypodermic

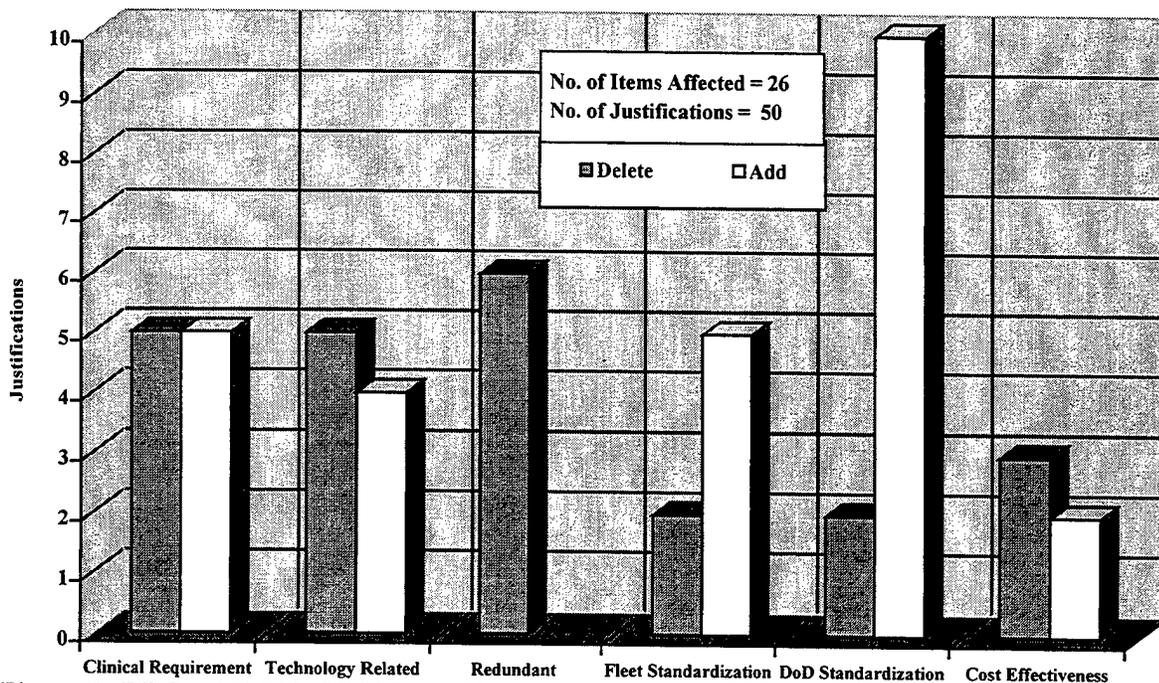


Figure 1. BDS AMMAL 0964 Item Change Justifications.

needles. In this case, this needle type would be a valuable aid for rapidly administering/pushing IV medications. However, there are no IV medications in this block. With one exception, the medications in this block are cartridge-needle units (Tubex®). The single injectable medication

(lidocaine HCl) is more suited to the currently stocked 23-gauge syringe-needle units. Also, it can be seen that technology-related justifications were cited as a primary factor for removing items from the block. This occurred in instances where items were judged to be outmoded in terms of current acceptable standards of care. Furthermore, Figure 1 shows that some of the new items proposed for the BDS were less expensive than the counterparts they replaced. This effect was responsible for the overall reduction in cost reported for this block. Finally, standardization issues were cited for some of the items in the block, however, these were the least influential of the factors citing cause for deletion.

Figure 1 also shows that a number of factors were found to be operating in the SMEs decisions to add items to the block. The most frequently cited justification was that an item met triservice standardization requirements. This is consistent with study objectives ensuring that all new items be triservice approved. With regard to Fleet standardization, it can be seen that one half of the items added to the block were selected because they were already being used on other AMMALs in the Fleet. Figure 1 shows that a substantial number of items were added because they achieved clinical requirements not currently being met. Asherman chest seals™, to control pneumothorax and naso-pharyngeal airways, were added for this reason. The issue of incorporating upgrades in technology also exerted an effect on the change profile of the BDS. This occurred when advances in technology permitted a more effective approach to achieving an identified requirement or standard of care than currently possible with existing gear.

Additionally, an examination of the factors underlying the decisions to implement changes was conducted for the PML AMMAL 0964. Figure 2 shows that the most active factor responsible for reducing the size of the 7001 was lack of an overriding clinical requirement justifying item inclusion. A second factor, technology, was also prominent in effecting change in this block. In these cases, items were removed from the AMMAL if they were not generally accepted as meeting current standards of clinical practice or if a more suitable alternative existed. Other items were deleted because SMEs agreed that they were redundant with other items in the block.

Figure 2 also shows that a number of factors were found to be operating in the SME's decisions to add items to the PML block. As with the BDS block, the most frequently cited justification was DoD standardization. Of the eight new PML items, six were triservice approved. Two of these items, both suture, were not. This resulted from a failure to identify similar suture meeting triservice requirements in any other Fleet AMMAL. Therefore, rather than add a redundant item to the Fleet, an existing suture from another Fleet AMMAL was selected. Further, it can be seen from Figure 2 that technology was often cited as a reason to add a new item. This was the justification for replacing the multi-size rolls of tape with characteristically poor adhesive properties with higher grade surgical tapes. Also, the three-inch elastic bandages were upgraded to the more versatile product, Coban™. Other items were added because of clinical requirements that were currently not being met. This occurred, for example, with the addition of the sutures. This corrected the omission of suture, necessary for maximizing the utility of the minor surgical set. Finally, cost played the least significant role in the revision of the PML. This type of examination was not conducted on the remaining trauma AMMALs because the data sets were too small.

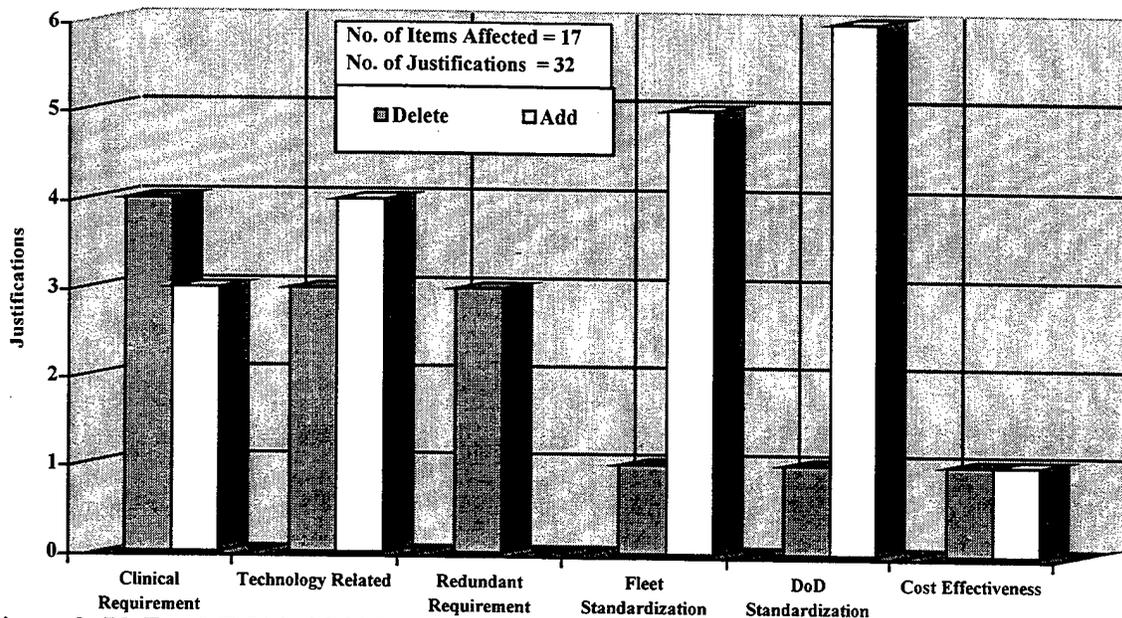


Figure 2. PML AMMAL 0964 Item Change Justifications.

CONCLUSIONS

The results presented in this paper demonstrate the value of establishing clinical requirements for the medical materiel used by the Fleet's emergency medicine AMMALs. This process led to the removal of items contributing little or no benefit to the mission of the AMMALs, thereby freeing space for items that can increase the Fleet's capacity to treat the seriously injured. Furthermore, the efficiency of the medical department is enhanced because there is less materiel to maintain, inventory, rotate, or discard upon expiration. Because fewer items are required, the cost of stocking a ship with its allotment of medical gear is also reduced.

The current study's primary objective was the establishment and validation of clinical requirements. Issues related to quantity of the items stocked was not a primary focus. While some adjustments were made, they were related to bringing the quantity of individual items in line with what appeared to be the current treatment capacity of the AMMAL. As the study progressed, however, it became evident that the quantity of materiel stocked in the trauma AMMALs, particularly the BDS, may provide less than the ideal level of care intended in cases of sustained mass casualty events.

One possible option would be to use the space that has now become available in the AMMALs to stock larger quantities of critical gear, such as IV fluid. A second and perhaps more effective response would be to determine the number of casualties and the types of patient conditions that each BDS can effectively treat. Augmenting these data would be the length of time that each BDS could sustain this patient stream without re-supply. An examination of historic casualty profiles in naval mass casualty events or models, such as SHIPCAS can provide hypothetical patient streams.⁶ These patient streams can then be entered into the model to determine the

treatment capacity of the BDSs. Where appropriate, materiel quantity could be adjusted to reflect the treatment priorities of the Fleet.

With the IDC knowledge base complete, a foundation has been established upon which the supplemental AMMALs of the Fleet's remaining platforms can be evaluated. As the program begins to address the larger deck platforms including the GMO, LHA/LHD, and carriers, more sophisticated medical resource modeling efforts will be introduced. Because these larger platforms have much larger quantities of materiel, used at higher rates than those of the smaller decks, they can uniquely benefit from modeling supply usage characteristics. This will be accomplished by establishing the relative frequency that each of the PCs occur across the Fleet from data collected from sources such as the Shipboard Automated Medical System (SAMS) and casualty estimation models produced by the Naval Health Research Center.

As the Navy continues to move forward in the implementation of recent doctrinal guidance, development of knowledge bases, such as those used in the current study, will aid in achieving doctrinal goals. Using the knowledge as a mechanism for establishing requirements has moved the Navy closer to achieving a focused logistical operation in one of its departments afloat.

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**Appendix A
Trauma Patient Condition Codes & Assigned Shipboard Treatment/Supply Locations**

PC	PATIENT CONDITION	Battle Dressing Sta.	Portable Med Lckr.	Emer Response Kit	Jr. Emer. Response	Antidote Locker	First Aid Kit
1	Cerebral concussion closed with/without nondepressed linear skull fracture severe-lost consciousness from 2 to 12 hrs	✓	✓	✓	✓		✓
2	Cerebral concussion closed with/without nondepressed linear skull fracture moderate-lost consciousness less than 2 hrs	✓	✓	✓	✓		✓
3	Cerebral contusion closed with/without nondepressed linear skull fracture severe-consciousness loss > 24 hrs w/focal neurological deficit	✓	✓	✓	✓		✓
4	Cerebral contusion closed with/without nondepressed linear skull fracture moderate-consciousness loss 12-24 hrs w/o focal neurological deficit	✓	✓	✓	✓		✓
5	Cerebral contusion closed large intracranial hematoma w/without nondepressed skull fracture-severe-rapidly deteriorating comatose patient	✓	✓	✓	✓		✓
6	Cerebral contusion closed with nondepressed linear skull fracture severe-loss of consciousness > 24 hours with/without focal neurological deficit	✓	✓	✓	✓		✓
7	Cerebral contusion closed with depressed skull fracture severe - w/intracerebral hematoma and/or massive depression	✓	✓	✓	✓		✓
8	Cerebral contusion closed with depressed skull fracture moderate-no hematoma or significant effect from depression	✓	✓	✓	✓		✓
9	Cerebral contusion open fracture severe-intracranial fragments &/or depressed fracture, eyeball laceration, retained intraocular foreign body	✓	✓	✓	✓		✓
10	Cerebral contusion with open skull fracture moderate - without intracranial fragments and/or depressed skull fracture	✓	✓	✓	✓		✓
11	Intracranial hemorrhage spontaneous nontraumatic all cases	✓	✓	✓	✓		✓
13	Wound scalp open without cerebral injury or skull fracture severe - scalped with avulsion of tissue	✓	✓	✓	✓		✓
14	Wound scalp open without cerebral injury or skull fracture moderate - scalp laceration	✓	✓	✓	✓		✓
15	Fracture facial bones closed exclusive of mandible severe - multiple fractures	✓	✓	✓	✓		✓
16	Fracture facial bones closed exclusive of mandible moderate - single fracture	✓	✓	✓	✓		✓
17	Wound face jaws and neck open lacerated with assoc. fractures excluding spinal fractures severe-w/airway obstruction	✓	✓	✓	✓		✓
18	Wound face/jaws/neck open w/fractures excl. spinal moderate-w/o airway obstruction; eyeball laceration w/retained intraocular foreign body	✓	✓	✓	✓		✓
19	Wound face & neck open lacerated contused w/o fractures severe-w/airway obstruction and/or major vessel involvement	✓	✓	✓	✓		✓
20	Wound face & neck open lacerated contused w/o fracture moderate-w/o airway obstruction or major vessel involvement	✓	✓	✓	✓		✓
21	Eye wound severe-loss of intraocular fluid with/without retinal detachment, w/severe lid laceration, eye not salvageable	✓	✓	✓	✓		✓
22	Eye wound lacerated moderate-w/o retinal detachment/retinal injury/foreign body w/o loss of vitreous fluid patient has hyphema eye salvageable	✓	✓	✓	✓		✓
23	Hearing impairment severe injury induced	✓					
24	Hearing impairment moderate injury induced	✓					
25	Fracture spine closed without cord damage unstable lesion	✓	✓	✓	✓		
26	Fracture spine closed without cord damage stable lesion	✓	✓	✓	✓		
27	Fracture spine closed with cord damage cervical spine with respiratory involvement	✓	✓	✓	✓		
28	Fracture spine closed with cord damage below cervical spine (progressive)	✓	✓	✓	✓		
29	Fracture spine open with cord damage cervical spine with respiratory involvement	✓	✓	✓	✓		
30	Fracture spine open with cord damage below cervical spine (progressive)	✓	✓	✓	✓		
31	Intervertebral disc disorders with nerve root compression resistant to bed rest/traction	✓					
33	Strains and sprains sacroiliac region severe - nonambulatory	✓					
35	Burn thermal superficial head and neck greater than 5% but less than 10% of total body area and/or eye involvement	✓					
36	Burn thermal superficial head and neck less than 5% of total body area and no eye involvement	✓					
37	Burn thermal partial thickness head & neck greater than 5% but less than 10% of total body area and/or eye involvement	✓					✓

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Trauma Patient Condition Codes & Assigned Shipboard Treatment/Supply Locations**

PC		PATIENT CONDITION					Battle Dressing Sta.	Portable Med Lckr.	Emer Response Kit	Jr. Emer. Response	Antidote Locker	First Aid Kit
38	Burn thermal partial thickness head and neck less than 5% of total body area and no eye involvement											✓
39	Burn thermal full thickness head and neck greater than 5% but less than 10% of total body area with eye involvement											✓
40	Burn thermal full thickness head and neck less than 5% of total body area and no eye involvement											✓
41	Fracture clavicle closed all cases											✓
42	Wound shoulder girdle open with bone injury severe - joint involvement											✓
43	Wound shoulder girdle open with bone injury moderate - no joint involvement								✓			✓
44	Fracture humerus closed upper shaft all cases											✓
45	Wound upper arm open penetrating lacerated without fracture severe - with nerve and/or vascular injury											✓
46	Wound upper arm open penetrating lacerated without fracture moderate - without nerve or vascular injury								✓			✓
47	Wound upper arm open with fractures and nerve and vascular injury arm nonsalvageable								✓			✓
48	Wound upper arm open with fractures and nerve injury no vascular injury arm salvageable								✓			✓
49	Fracture radius and ulna closed severe - shafts of bones								✓			✓
50	Fracture radius and ulna closed moderate - colles fracture								✓			✓
51	Wound forearm open lacerated penetrating w/obone/nerve/or vascular injury w/major loss of muscle tissue severe requiring major debridement								✓			✓
52	Wound forearm open lacerated penetrating w/o bone/nerve/vascular injury moderate - not requiring major debridement								✓			✓
53	Wound forearm open lacerated penetrating with fracture and with nerve and vascular injury forearm not salvageable								✓			✓
54	Wound forearm open lacerated penetrating with fracture and with nerve and vascular injury forearm salvageable								✓			✓
55	Fracture hand or fingers closed severe - requiring closed reduction											✓
56	Fracture hand and/or fingers closed moderate - not requiring closed reduction											✓
57	Wound hand and/or fingers open lacerated without fractures severe - superficial and deep tendon involvement											✓
58	Wound hand and/or fingers open lacerated without fractures moderate - no tendon involvement or limited to sublimis tendon involvement											✓
59	Wound hand open lacerated contused crushed w/fracture(s) all cases - involving fractures of carpals and/or metacarpals											✓
60	Wound fingers open lacerated contused crushed with fracture(s) of phalangeals requiring rehabilitation											✓
61	Crush injury upper extremity severe - limb not salvageable											✓
62	Crush injury upper extremity moderate - limb salvageable								✓			✓
64	Dislocation shoulder closed all cases											✓
65	Dislocation/fracture elbow closed acute all cases											✓
67	Dislocation hand or wrist closed acute											✓
68	Dislocation fingers closed acute											✓
69	Amputation hand traumatic complete all cases											✓
70	Amputation forearm traumatic complete all cases											✓
71	Amputation full arm traumatic complete all cases											✓
72	Sprain wrist closed acute all cases											✓
73	Sprain thumb closed acute severe											✓

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PC	PATIENT CONDITION	Battle Dressing Sta.	Portable Med Lckr.	Emer Response Kit	Jr. Emer. Response	Antidote Locker	First Aid Kit
74	Sprain fingers closed acute moderate - no thumb involvement	✓					
75	Burn thermal superficial upper extremities greater than 10% but less than 20% of total body area involved	✓					
76	Burn thermal superficial upper extremity less than 10% of total body area involved	✓					
77	Burn thermal partial thickness upper extremities greater than 10% but less than 20% of total body area involved	✓					✓
78	Burn thermal partial thickness upper extremity less than 10% of total body area involved	✓					✓
79	Burn thermal full thickness upper extremities greater than 10% but less than 20% of total body area involved	✓					✓
80	Burn thermal full thickness upper extremity less than 10% of total body area involved	✓					✓
81	Fracture ribs closed severe - multiple fractures	✓					
82	Fracture rib(s) closed moderate	✓					
83	Injury lung closed (blast crush) w/pneumothorax severe-1 lung w/pulmonary contusion & severe resp. distress	✓	✓	✓	✓		✓
84	Injury lung closed (blast crush) w/ pneumothorax moderate-1 lung w/ pulmonary contusion & respiratory distress	✓	✓	✓	✓		✓
85	Wound thorax (anterior or posterior) open superficial lacerated contused abraded avulsed requiring major debridement	✓					✓
86	Wound thorax (anterior or posterior) open superficial lacerated contused abraded avulsed not requiring major debride	✓					✓
87	Wound thorax (anterior or posterior) open penetrating with associated rib fractures and pneumothorax acute severe respiratory distress	✓	✓	✓	✓		✓
88	Wound thorax (anterior or posterior) open penetrating with associated rib fractures and pneumothorax moderate respiratory distress	✓	✓	✓	✓		✓
90	Burn thermal superficial trunk greater than 20% but less than 30% of total body area involved	✓					
91	Burn thermal superficial trunk greater than 10% but less than 20% of total body area involved	✓					
92	Burn thermal partial thickness trunk greater than 20% but less than 30% of total body area involved	✓	✓	✓	✓		✓
93	Burn thermal partial thickness trunk greater than 10% but less than 20% of total body area involved	✓					✓
94	Burn thermal full thickness trunk greater than 20% but less than 30% of total body area involved	✓	✓	✓	✓		✓
95	Burn thermal full thickness trunk greater than 10% but less than 20% of total body area involved	✓					✓
96	Wound abdominal wall (anterior or posterior) lacerated abraded avulsed w/o entering abdominal cavity severe-requiring major debridement	✓	✓	✓	✓		✓
97	Wound abdominal wall (anterior or posterior) lacerated abraded avulsed without entering abdominal cavity not requiring major debridement	✓					✓
98	Wound liver closed acute (crush fracture) major liver damage	✓	✓	✓	✓		✓
99	Wound liver closed acute (crush fracture) minor liver damage	✓	✓	✓	✓		✓
100	Wound spleen closed acute (crush fracture) all cases	✓	✓	✓	✓		✓
101	Wound abdominal cavity open with lacerating penetrating perforating wound to the large bowel	✓	✓	✓	✓		✓
102	Wound abdominal cavity open w/lacerating penetrating perforating wound to small bowel w/o major/multiple resections	✓	✓	✓	✓		✓
103	Wound abdominal cavity open with penetrating perforating wound of liver major damage	✓	✓	✓	✓		✓
104	Wound abdominal cavity open with penetrating perforating abdominal wound with lacerated liver	✓	✓	✓	✓		✓
105	Wound abdominal cavity open with penetrating perforating wound of spleen	✓	✓	✓	✓		✓
106	Wound abdominal cavity open with lacerated penetrated perforated wound with shattered kidney	✓	✓	✓	✓		✓
107	Wound abdominal cavity open with lacerated penetrating perforating wound with lacerated kidney initially repaired but subsequent nephrectomy	✓	✓	✓	✓		✓
108	Wound penetration of pelvis with severe organ damage	✓	✓	✓	✓		✓

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PC	PATIENT CONDITION	Battle Dressing Sta.	Portable Med Lckr.	Emer Response Kit	Jr. Emer. Response	Antidote Locker	First Aid Kit
109	Wound penetration of pelvis with moderate organ damage	✓	✓	✓	✓		✓
110	Wound buttocks severe - open lacerated penetrating perforating and avulsed	✓	✓	✓	✓		✓
111	Wound buttocks moderate - open lacerated contused and abraded	✓	✓	✓	✓		✓
112	Displaced fracture of pelvis closed with associated soft tissue damage and pelvic organ damage	✓	✓	✓	✓		
113	Nondisplaced fracture of pelvis closed with associated soft tissue damage	✓	✓	✓	✓		
114	Wound abdomen open w/pelvic fracture & penetrating perforating wounds to multiple pelvic structures (male or female)	✓	✓	✓	✓		✓
115	Wound abdomen open with pelvic fracture and penetrating perforating wounds to pelvic colon only (male or female)	✓	✓	✓	✓		✓
116	Wound external genitalia male severe - lacerated avulsed crushed	✓	✓	✓	✓		✓
117	Wound external genitalia male moderate - abraded and contused	✓	✓	✓	✓		✓
118	Wound external genitalia female severe - lacerated avulsed crushed	✓	✓	✓	✓		✓
119	Wound external genitalia female moderate - abraded contused	✓	✓	✓	✓		✓
120	Fracture closed femur shaft all cases	✓	✓	✓	✓		✓
121	Wound thigh open without fracture nerve or vascular injury requiring major debridement	✓	✓	✓	✓		✓
122	Wound thigh open without fracture nerve or vascular injury not requiring major debridement	✓	✓	✓	✓		✓
123	Wound thigh open lacerated penetrating perforating with fracture and nerve/vascular injury limb not salvageable	✓	✓	✓	✓		✓
124	Wound thigh open lacerated penetrating perforating with fracture and nerve and/or vascular injury limb salvageable	✓	✓	✓	✓		✓
125	Wound knee open lacerated penetrating perforating with joint space penetration shattered knee	✓	✓	✓	✓		✓
126	Wound knee open lacerated penetrating perforating w/joint space penetration articular cartilage damage no bone injury	✓	✓	✓	✓		✓
127	Fracture closed tibia and fibula shaft all cases	✓	✓	✓	✓		✓
128	Wound lower leg open lacerated penetrating perforating without fractures requiring major debridement	✓	✓	✓	✓		✓
129	Wound lower leg open lacerated penetrating perforating without fractures not requiring major debridement	✓	✓	✓	✓		✓
130	Wound lower leg open lacerated penetrating perforating with fracture and nerve/vascular injury limb not salvageable	✓	✓	✓	✓		✓
131	Wound lower leg open lacerated penetrating perforating with fracture and nerve and/or vascular injury limb salvageable	✓	✓	✓	✓		✓
132	Fracture ankle/foot closed displaced requiring reduction	✓	✓	✓	✓		✓
133	Fracture ankle/foot closed nondisplaced not requiring reduction	✓	✓	✓	✓		✓
134	Wound ankle foot toes open lacerated contused without fractures but requiring major debridement	✓	✓	✓	✓		✓
135	Wound ankle foot toes open lacerated contused without fractures not requiring major debridement	✓	✓	✓	✓		✓
136	Wound ankle foot toes open penetrating perforating with fractures and nerve/vascular injury limb not salvageable	✓	✓	✓	✓		✓
137	Wound ankle foot toes open penetrating perforating with fractures and nerve and/or vascular injury limb salvageable	✓	✓	✓	✓		✓
138	Crush injury lower extremity limb not salvageable	✓	✓	✓	✓		✓
139	Crush injury lower extremity limb salvageable	✓	✓	✓	✓		✓
140	Dislocation hip closed acute all cases	✓	✓	✓	✓		✓
141	Tear ligaments knee acute complete rupture	✓	✓	✓	✓		✓
142	Tear ligaments knee acute incomplete rupture	✓	✓	✓	✓		✓

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PC	PATIENT CONDITION	Battle Dressing Sta.	Portable Med Lckr.	Emer Response Kit	Jr. Emer. Response	Antidote Locker	First Aid Kit
143	Dislocation toes closed acute all cases	✓					✓
144	Amputation foot traumatic complete all cases	✓	✓	✓	✓		✓
145	Amputation below knee traumatic complete all cases	✓	✓	✓	✓		✓
146	Amputation traumatic complete requiring hip disarticulation	✓	✓	✓	✓		✓
147	Amputation above knee traumatic complete	✓	✓	✓	✓		✓
148	Sprain ankle closed acute with complete ligament rupture	✓					✓
149	Sprain ankle closed acute grade 2 incomplete ligament rupture	✓					✓
150	Burn thermal superficial lower extremities and genitalia greater than 30% but less than 40% of total body area involved	✓					✓
151	Burn thermal superficial lower extremity and genitalia greater than 15% but less than 30% of total body area involved	✓					✓
152	Burn thermal partial thickness lower extremities and genitalia greater than 30% but less than 40% of TBSA involved	✓	✓	✓	✓		✓
153	Burn thermal partial thickness lower extremity and genitalia greater than 15% but less than 30% of TBSA involved	✓	✓	✓	✓		✓
154	Burn thermal full thickness lower extremities and genitalia greater than 30% but less than 40% of TBSA involved	✓	✓	✓	✓		✓
155	Burn thermal full thickness lower extremity and genitalia greater than 15% but less than 30% of total body area involved	✓	✓	✓	✓		✓
157	Insect bites and stings (unspecified body area) with systemic symptoms and/or respiratory difficulty	✓	✓	✓	✓		✓
159	MIW brain and chest with sucking chest wound and pneumothorax	✓	✓	✓	✓		✓
160	MIW brain and abdomen with penetrating perforating wound colon	✓	✓	✓	✓		✓
161	MIW brain and abdomen with penetrating perforating wound kidney	✓	✓	✓	✓		✓
162	MIW brain and abdomen with penetrating perforating wound bladder	✓	✓	✓	✓		✓
163	MIW brain and abdomen with shock and penetrating perforating wound spleen	✓	✓	✓	✓		✓
164	MIW brain and abdomen with shock and penetrating perforating wound liver	✓	✓	✓	✓		✓
165	MIW brain and lower limbs requiring bilateral above knee amputations	✓	✓	✓	✓		✓
166	MIW chest with pneumothorax and abdomen with penetrating wound colon	✓	✓	✓	✓		✓
167	MIW chest with pneumothorax and abdomen with penetrating perforating wound kidney bladder	✓	✓	✓	✓		✓
168	MIW chest with pneumothorax and abdomen with perforating wound bladder	✓	✓	✓	✓		✓
169	MIW chest with pneumothorax and abdomen with penetrating perforating wound spleen	✓	✓	✓	✓		✓
170	MIW chest with pneumothorax and abdomen with penetrating perforating wound liver	✓	✓	✓	✓		✓
171	MIW chest with pneumothorax and limbs with fracture and vascular injury	✓	✓	✓	✓		✓
172	MIW abdomen with penetrating perforating wound of colon and bladder	✓	✓	✓	✓		✓
173	MIW abdomen with penetrating perforating wound of colon and spleen	✓	✓	✓	✓		✓
174	MIW abdomen with penetrating perforating wound of colon and liver	✓	✓	✓	✓		✓
175	MIW abdomen & limbs w/penetrated perforated colon & open fracture & neurovascular injury of salvageable lower limb	✓	✓	✓	✓		✓
176	MIW abdomen and pelvis with penetrating perforating wound of liver and kidney	✓	✓	✓	✓		✓
177	MIW abdomen and pelvis with penetrating perforating wounds of spleen and bladder	✓	✓	✓	✓		✓
178	MIW abdomen pelvis limbs with fracture and neurovascular injury limb salvageable and penetrating wound kidney	✓	✓	✓	✓		✓

**Appendix A
Trauma Patient Condition Codes & Assigned Shipboard Treatment/Supply Locations**

PC	PATIENT CONDITION	Battle Dressing Sta.	Portable Med Lckr.	Emer Response Kit	Jr. Emer. Response	Antidote Locker	First Aid Kit
179	MIW abdomen pelvis limbs without fracture or neurovascular injury and penetrating perforating wound bladder	✓	✓	✓	✓		✓
180	MIW abdomen & lower limbs w/fracture & nerve injury w/penetrating wound spleen w/full thickness burns TBSA>20%	✓	✓	✓	✓		✓
181	MIW abdomen and limbs without fracture or nerve injury with penetrating wound of liver	✓	✓	✓	✓		✓
182	MIW chest with pneumothorax soft tissue injury to upper limbs and penetrating wound of brain	✓	✓	✓	✓		✓
183	MIW chest with pneumothorax soft tissue injury to upper limbs and abdomen with wound of colon	✓	✓	✓	✓		✓
184	MIW chest with pneumothorax pelvis and abdomen with wound of colon and bladder	✓	✓	✓	✓		✓
185	MIW abdomen and chest with multiple organ damage	✓	✓	✓	✓		✓
186	Multiple nonperforating fragment wounds of skin and soft tissue	✓	✓	✓	✓		✓
187	Trench foot immersion foot severe - vesicle formation	✓	✓	✓	✓		✓
188	Trench foot immersion foot moderate - no vesicle formation	✓	✓	✓	✓		✓
190	Frostbite full skin thickness or deeper involvement	✓	✓	✓	✓		✓
191	Frostbite less than full skin thickness	✓	✓	✓	✓		✓
192	Hypothermia all cases	✓	✓	✓	✓		✓
193	Heat stroke	✓	✓	✓	✓		✓
194	Heat exhaustion	✓	✓	✓	✓		✓
195	Heat cramps all cases	✓	✓	✓	✓		✓
265	Near drowning without cervical spine injury or hypothermia all cases	✓	✓	✓	✓		✓
266	Toxic inhalation including burn-related respiratory injuries severe all cases	✓	✓	✓	✓		✓
268	White phosphorus burns resultant partial thickness burns < 40% TBSA all cases	✓	✓	✓	✓		✓
304	Stress reaction severe unstable slow improvement	✓	✓	✓	✓		✓
305	Stress reaction severe stable slow improvement	✓	✓	✓	✓		✓
308	Drug dependency (other than alcohol) severe	✓	✓	✓	✓		✓
310	Stress reaction mild/moderate	✓	✓	✓	✓		✓
311	Eye wound lacerated penetrated with retinal injury eye salvageable	✓	✓	✓	✓		✓
312	Wound knee open lacerated penetrating perforating with joint space penetration no bone or articular cartilage	✓	✓	✓	✓		✓
313	Wound abdominal cavity open with lacerated penetrating perforating wound kidney moderate - kidney salvageable	✓	✓	✓	✓		✓
314	Stress reaction severe unstable delayed improvement	✓	✓	✓	✓		✓
315	Stress reaction severe unstable persisting	✓	✓	✓	✓		✓
316	Alcohol dependency severe - impending or actual DTs	✓	✓	✓	✓		✓
317	Drug misuse (other than alcohol) severe - atypical no dependency	✓	✓	✓	✓		✓
318	Stress reaction severe - rapid improvement	✓	✓	✓	✓		✓
319	Wound fingers open lacerated confused crushed with fracture(s) of phalangeals not requiring rehabilitation	✓	✓	✓	✓		✓
320	Dislocation/subluxation temporomandibular joint without fracture chronic requiring correction	✓	✓	✓	✓		✓
321	Dislocation/subluxation temporomandibular joint without fracture acute initial injury	✓	✓	✓	✓		✓

**Appendix A
Trauma Patient Condition Codes & Assigned Shipboard Treatment/Supply Locations**

PC	PATIENT CONDITION	Battle Dressing Sta.	Portable Med Lckr.	Emer Response Kit	Tr. Emer. Response	Antidote Locker	First Aid Kit
322	Fracture mandible with/without oral laceration without airway involvement unstable severe requiring open reduction	✓	✓	✓	✓		✓
323	Fracture mandible with/without oral laceration without airway involvement mild displacement stable	✓					✓
324	Stress reaction severe stable - delayed improvement	✓					
325	Stress reaction severe stable persisting	✓					
346	Eye wound directed energy induced (laser) severe of macula and/or optic nerve with vitreous blood severe visual loss one or both eyes	✓					
347	Eye wound directed energy induced (laser/rff) moderate to severe posterior nonmacular nonoptic nerve visual loss secondary to vitreous blood	✓					
348	Eye wound directed energy induced (laser) moderate nonmacular nonoptic nerve no vitreous blood	✓					
349	Eye wound directed energy induced (laser/rff) mild/moderate anterior pain w/photophobia & disrupted corneal integrity	✓					
350	Eye wound directed energy induced (laser) mild flash blindness no permanent damage	✓					
351*	Hypphema all cases	✓					
354*	Smoke Inhalation	✓					
355*	Electrical Shock	✓	✓	✓	✓	✓	
364*	Poisoning, including ingestion, inhalation, contact	✓	✓	✓	✓	✓	
365*	Decompression Sickness	✓		✓			
	* Added Patient Conditions						

**Appendix B
Shipboard Trauma Tasks & Supplies**

NSN	Nomenclature	Amount	UM	BDS	PML	ERK	JRERK	Antidote	1 st Aid
TASK 001: TRIAGE¹									
7210001395779	Blanket Bed Cotton Thermal Weave White 66x90"	1	EA	✓					
7210009356666	Blanket Casualty Plastic Film Alum Coated 96x56" Green	1	EA	✓	✓	✓	✓		
6530007844315	Strap Web Ctn MIL-W-530 Ty 2B CL 4 Mildew/Water Resist	2	EA	✓					
8465013376792	Tag ID Personnel Cardboard Field Triage	1	EA	✓	✓				
TASK 002: ASSESSMENT & EVALUATION OF PATIENT STATUS^{1, 2}									
6530014523226	Backpack Medical 20x14x10"	1	EA			✓	✓		
6545004896320	Case Medical Instrument and Supply Set Duck Nylon Olive Drab	1	EA				✓		
6515003245500	Depressor Tongue Wood 6x.75x.062" Straight	1-2	EA	✓	✓			✓	
6515005507199	Otoscope & Ophthalmoscope Set C/O Sm Med & Lg Speculum Battery Pwr	1	EA	✓	✓				
TASK 005: REMOVE AND COLLECT BELONGINGS, VALUABLES AND EQUIPMENT No Supplies Assigned									
TASK 006: ESTABLISH ADEQUATE AIRWAY¹									
6515012331920	Airway Nasopharyngeal 6x8mm Smooth Rd Edges Plas Disp	1	EA	✓	✓	✓	✓		
6515011649637	Airway Pharyngeal Cutaway Flange Kink Res 30FR 100mm	1	EA	✓	✓	✓	✓	✓	✓
6515009582232	Airway Pharyngeal Cutaway Flange Berman Child Size 80mm	1	EA	✓	✓	✓	✓	✓	✓
TASK 007: EMERGENCY CRICOTHYROIDOTOMY									
6515013215211	Airway Kit Percutaneous Emer Adult Ster Disp	1	EA	✓		✓			
6530002999608	Drape Surgical General Surgery Green 24x24"	1	EA	✓					
6515011498839	Gloves Surgeons Gen Surg Sz 6.5 Str/Crvd Fngr Prepowdered	1	PR	✓					
6515011498840	Gloves Surgeons Gen Surg Sz 7 Rubber Prepowdered Ster Disp	1	PR	✓					
6515011498841	Gloves Surgeons Gen Surg Sz 7.5 Rubber Prepowdered Ster Disp	1	PR	✓					
6515011498842	Gloves Surgeons Gen Surg Sz 8 Rubber Prepowdered Ster Disp	1	PR	✓		✓			
6505005986116	Lidocaine Hydrochloride Inj USP 1% 10mg/ml	3	ML	✓					
6505010672812	Povidone-Iodine Topical Solution USP w/Dispenser	0.5	OZ	✓					
6510007822698	Sponge Surgical Gauze ABS White 4x4" 8-Ply U/F Inj/Surg	10	EA	✓		✓			
6510009268883	Tape Adhesive Surgical White Porous Woven 2" x 10YD	0.2	RL	✓		✓			
TASK 010: NEUROLOGICAL ASESSMENT									
6515005507199	Otoscope & Ophthalmoscope Set C/O Sm Med & Lg Specul Battery	1	EA	✓	✓				
TASK 011: STABILIZE NECK (COLLAR/SPINE BOARD)¹									
6515014524435	Support Cervical Stiff Neck Tall/Regular/No Neck	1	EA	✓	✓	✓	✓		
TASK 017: SUCTION (ORAL/TRACH/ENDO)									
6515004588411	Catheter & Connector Suction Trach 14FR Whistle Tip 2 Eyes Max	1	EA	✓					
6505001325181	Oxygen USP 99% Cylinder Ty-D 95 GL	1	EA	✓		✓			
6515012429123	Suction Apparatus Oropharyngeal 120/230 V 50/60 Hz AC Prtble Btry	1	EA	✓					
Cat# 01DV2025	Oxygen Admin Kit w/ Oxygen Powered Suction	1	EA			✓			

¹The required *supplies* vary depending on PC

²The required *amounts* vary depending on PC

**Appendix B
Shipboard Trauma Tasks & Supplies**

NSN	Nomenclature	Amount	UM	BDS	PML	ERK	JREK	Antidote	1 st Aid
TASK 019: EMERGENCY CONTROL OF HEMORRHAGE^{1, 2}									
6510002011755	Bandage Muslin Comp Camou 37x37x52"	1-2	EA	✓	✓	✓	✓		✓
6510001055807	Bandage Elastic Coban Brn 3" x 5YD	1	RL	✓	✓	✓	✓		✓
6510009355822	Bandage Elastic Rolled 4" x 4.5YD	1-4	RL	✓	✓	✓	✓		✓
6510000583047	Bandage Gauze 6-Ply Rolled White Sterile 4.5" x 4YD in I.S.	1-5	RL	✓	✓	✓	✓		✓
6510014081920	Dressing Chest Wound Seal	1	EA	✓	✓	✓	✓		✓
6510002017430	Dressing First Aid Field Brown Camouflaged 7.75-8.25" L 7.25-7.85" W	1-5	EA	✓	✓	✓	✓		✓
6510002017425	Dressing First Aid Camouflaged 11.5-12" L 11.5-12" W	1-2	EA	✓	✓	✓	✓		✓
6510000835573	Dressing First Aid Field White 6.25-7.25" L 4"W Absorbent Pleated	1-5	EA	✓	✓	✓	✓		✓
6510007822698	Sponge Surgical Gauze ABS White 4x4" 8-Ply U/F Inj/Surg	10-20	EA	✓	✓	✓	✓		✓
6510009268883	Tape Adhesive Surgical White Porous Woven 2" x 10YD	0.2	RL	✓	✓	✓	✓		✓
TASK 022: O₂ ADMINISTRATION SETUP									
4720012884685	Hose Nonmetallic Oxygen Gas Green H ₂ O Resistant	1	EA	✓					
6515004696573	Humidifier Oxygen 400cc Cap Diffuser Type w/ Selector Switch	1	EA	✓					
6515008886122	Mask Oronasal Semi-Rigid Translucent Plas Face Piece w/Conn Semi-Rig	1	EA	✓					
6515014177877	Minilator Oxygen HO	1	EA	✓					
Cat# 01DV2025	Oxygen Admin Kit w/ Oxygen Powered Suction, Demand Valve	1	EA			✓			
6680011746276	Regulator Pressure Med Gas Admin Apparatus	1	EA	✓					
6515005628308	Tube Inhaler Force-Fit 72" Plastic w/Molded Resilient Tape Disp	1	EA	✓					
5120002643794	Wrench Open End Adjust Non-Spark/Mag 12"	1	EA	✓					
8120005508484	Yoke-Adaptor Compressed Gas Cylinder Flush Type Outlet Sm	1	EA	✓					
TASK 023: O₂ ADMINISTRATION CONTINUOUS (NASAL/MASK)									
6505001325181	Oxygen USP 99% Cylinder Ty-D 95 GL	1	EA	✓		✓			
6505001325199	Oxygen USP 99% Cylinder Ty-H 160GL	1	EA	✓					
TASK 024: VITAL SIGNS¹									
6515010394884	Sphygmomanometer Aneroid 300mm Max Calibration w/Clip for Cuff	1	EA	✓	✓	✓	✓		
6515013041027	Stethoscope 20" L Adult Child Infant Size Bells Latex Rubber	1	EA	✓	✓	✓	✓		
TASK 046: MAINTAIN CHEST TUBE SUCTION									
No Supplies Assigned									
TASK 049: START/CHANGE IV INFUSION SITE^{1, 2}									
6515013373681	Catheter & Needle Unit IV 18GA 1.25" W w/Ndl Guard Bevel Tip Disp	1-2	EA	✓	✓	✓	✓		
6515013365874	Catheter & Needle Unit IV 16GA 1.25" W w/Luer-Lock Hub Ster	1-2	EA	✓	✓	✓	✓		
6515013773836	Extension Set Intravenous Admin 30" W w/Roller/Slide Clamp Disp	1	EA	✓	✓	✓	✓		
6515001179021	Intravenous Inj Set Vented 15 Drops/ml 78" L Ster Disp	1-2	EA	✓	✓	✓	✓		
6510007863736	Pad Isopropyl Alcohol Impregnated Nonwvn Cotton/Rayon 1.5-2.6x1.8-2"	1-2	EA	✓	✓	✓	✓		
6510009268883	Tape Adhesive Surgical White Porous Woven 2" x 10YD	0.25	RL	✓	✓	✓	✓		
TASK 050: IV INFUSION/CHANGE BOTTLE²									
6505013306267	Ringer's Injection Lactated USP 1000ml Bag	1-6	EA	✓	✓	✓			

¹The required *supplies* vary depending on PC

²The required *amounts* vary depending on PC

**Appendix B
Shipboard Trauma Tasks & Supplies**

NSN	Nomenclature	Amount	UM	BDS	PML	ERK	JREK	Antidote	1 st Aid
TASK 064: VENOUS CUTDOWN									
6515006600011	Blade Surgical Knife Detachable Car Steel #10	1	EA	✓					
6515006600010	Blade Surgical Knife Detachable Steel #11 Small Tang u/w 3 3L 7 9 Hdl	1	EA	✓					
6530013344379	Brush-Sponge Surgical Scrub Ster Non-Irritating Ind Sealed	1	EA	✓					
6515003343800	Forceps Hemostatic Kelly 5.25-5.75" L Slightly Curved Jaw Str Hdl CRS	2	EA	✓					
6515003376800	Forceps Hemostatic Kelly 5.5" L 1" L Straight Jaw Box Lock CRS	2	EA	✓					
6515003379800	Forceps Tissue 5" L Tweezer Straight & Smooth Jaw Sq Tip CRS	1	EA	✓					
6515003447800	Handle Surgical Knife Detachable Blade Sz 3 Narrow Nose	1	EA	✓					
6515003417200	Holder Suture Needle Collier 5" Straight Jaw Box Lock CRS	1	EA	✓					
6515002998736	Holder Suture Needle Hegar-Mayo 6" Serrated Carb Tungsten Jaw	1	EA	✓					
6510007863736	Pad Isopropyl Alcohol Impregnated Nonwvn Cotton/Rayon 1.5-2.6x1.8-2"	2	EA	✓					
6515011190018	Probe General Operating Bulbous Tip 5" CRS Spatulate Handle	1	EA	✓					
6515003651820	Scissors Gen Surg 5.5' One Blunt & One Sharp Blade Pt CRS	1	EA	✓					
6515003644800	Scissors Iris 4-4.5" Straight Finger Ring O/A L Sharp Point .375" Cut	1	EA	✓					
6515007344342	Suture Nonabsorb Sz 4-0 1 18" Strand C3 RVS Cutting Edge Nylon	1	EA	✓					
6530007939945	Tray Instrument Rectangle CRS 10.5x8x2" TyII Sz 2	1	EA	✓					
6515013851697	Tube Drainage Surg Penrose 12x7/8x.11" Amber Rubber	1	EA	✓					
TASK 070: BOWEL SOUNDS ASSESS									
6515013041027	Stethoscope 20" L Adult Child Infant Size Bells Latex Rubber	1	EA	✓	✓	✓	✓		
TASK 071: INSERT NG/OG TUBE									
6515011498839	Gloves Surgeons Gen Surg Sz 6.5 Str/Crvid Fngr Prepowdered	1	PR	✓					
6515011498840	Gloves Surgeons Gen Surg Sz 7 Rubber Prepowdered Ster Disp	1	PR	✓					
6515011498841	Gloves Surgeons Gen Surg Sz 7.5 Rubber Prepowdered Ster Disp	1	PR	✓					
6515011498842	Gloves Surgeons Gen Surg Sz 8 Rubber Prepowdered Ster Disp	1	PR	✓					
6505001538809	Lubricant Surgical 4 OZ Tube	0.2	OZ	✓					
6510009268883	Tape Adhesive Surgical White Porous Woven 2" x 10YD	0.1	RL	✓					
6515001490316	Tube Stomach Surgical Plastic Salem E19 w/Funnel 16FR Dbl Lumen 48"	1	EA	✓					
TASK 073: MAINTAIN NG/OG SUCTION									
No Supplies Assigned									
TASK 079: CATHETERIZATION FOLEY									
6515001490104	Catheterization Kit Urethral w/Bot-Outlet Drain Bag 16FR Disp	1	EA	✓					
6505001538809	Lubricant Surgical 4 OZ Tube	0.2	OZ	✓					
TASK 084: SHAVE & PREP									
6505001538809	Lubricant Surgical 4 OZ Tube	0.2	OZ	✓					
6505010672812	Povidone-Iodine Topical Solution USP 4 Fl Oz Bottle w/Dispenser	0.5	OZ	✓					

¹The required *supplies* vary depending on PC

²The required *amounts* vary depending on PC

**Appendix B
Shipboard Trauma Tasks & Supplies**

NSN	Nomenclature	Amount	UM	BDS	PML	ERK	JREK	Antidote	1 st Aid
TASK 086: DRESS WOUND^{1, 2}									
6510000583047	Bandage Gauze 6-Ply Rolled White Sterile 4.5" x 4YD in I.S.	1-4	RL	✓	✓	✓	✓		
6510012399781	Dressing Burn 8x18" Saturated w/Water Gel Individ Wrapped	1-4	EA	✓					
6510014422013	Dressing Burn First Aid 10x8cm	1-4	EA	✓	✓				
6510009268883	Tape Adhesive Surgical White Porous Woven 2"x10YD	0.25	RL	✓	✓	✓	✓		
TASK 092: APPLY ACE BANDAGE^{1, 2}									
6510009355823	Bandage Elastic Cotton 6" x 4.5YD	1	RL	✓	✓				
6510009355822	Bandage Elastic Rolled 4" x 4.5YD	1	RL	✓					
TASK 093: EXTREMITY ELEVATION									
No Supplies Assigned									
TASK 096: APPLY SLING									
6510002011755	Bandage Muslin Comp Camou 37x37x52"	1	EA	✓	✓	✓	✓		✓
TASK 098: APPLY SPLINT, IMMOBILIZE INJURED EXTREMITY¹									
6510001055807	Bandage Elastic Coban Brn 3" x 5YD	1	RL	✓	✓				✓
6510009355823	Bandage Elastic Cotton 6" x 4.5YD	1	RL	✓					
6510009355822	Bandage Elastic Rolled 4" x 4.5YD	1	RL	✓					
6510000583047	Bandage Gauze 6-Ply Rolled White Sterile 4.5" x 4YD in I.S.	1	RL	✓	✓	✓	✓		
6515001686894	Splint Finger Phalange 18x.75" Either Hand Cut & Bent Alum Alloy	1	EA	✓					
6515012254681	Splint Universal 36x4.5" Malleable Alum Radiolucent Ltwt Gray	1	EA	✓	✓	✓	✓		✓
6510009268883	Tape Adhesive Surgical White Porous Woven 2"x10YD	0.5	RL	✓	✓	✓	✓		✓
TASK 099: CLOSED REDUCTION (FINGER, THUMB, TOE)									
6510001055807	Bandage Elastic Coban Brn 3" x 5YD	1	RL	✓					
6515001686894	Splint Finger Phalange 18x.75" Either Hand Cut & Bent Alum Alloy	1	EA	✓					
TASK 100: CLOSED REDUCTION OF FRACTURED RADIUS & ULNA									
6510009355822	Bandage Elastic Rolled 4" x 4.5YD	1	RL	✓					
6515012254681	Splint Universal 36x4.5" Malleable Alum Radiolucent Ltwt Gray	1	EA	✓	✓	✓	✓		✓
TASK 103: CIRCULATION CHECK									
6515013041027	Stethoscope 20" L Adult Child Infant Size Bells Latex Rubber	1	EA	✓	✓	✓	✓		

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²The required *amounts* vary depending on PC

**Appendix B
Shipboard Trauma Tasks & Supplies**

NSN	Nomenclature	Amount	UM	BDS	PML	ERK	JRERK	Antidote	1 st Aid
TASK 108: MINOR SURGICAL PROCEDURE (DEBRIDE/SUTURE/INCISION)^{1, 2}									
6510001055807	Bandage Elastic Coban Bm 3" x 5YD	1	RL	✓	✓				
6510009355822	Bandage Elastic Rolled 4" x 4.5YD	1	RL	✓	✓				
6510000583047	Bandage Gauze 6-Ply Rolled White Sterile 4.5" x 4YD in I.S.	1	RL	✓	✓				
7240007710945	Basin Wash CRS 4.25 QT	1	EA	✓					
6515006600011	Blade Surgical Knife Detachable Car Steel #10	1	EA	✓	✓				
6515006600010	Blade Surgical Knife Detachable Steel #11 Small Tang u/w 3 3L 7 9 Hdl	1	EA	✓	✓				
6530013344379	Brush-Sponge Surgical Scrub Ster Non-Irritating I.S.	1	EA	✓					
6530002999608	Drape Surgical General Surgery Green 24x24"	1	EA	✓	✓				
6515003343800	Forceps Hemostatic Kelly 5.25-5.75" Slightly Curved Jaw Str Hdl CRS	2	EA	✓	✓				
6515003346800	Forceps Hemostatic Kelly 5.5" L 1" Straight Jaw Box Lock CRS	2	EA	✓	✓				
6515003379800	Forceps Tissue 5" L Tweezer Straight & Smooth Jaw Sq Tip CRS	1	EA	✓	✓				
6515003377800	Forceps Tissue Adson 4.5" Tweezer Straight & Smooth Jaw CRS 1vs2 Tth	1	EA	✓	✓				
6515011498839	Gloves Surgeons Gen Surg Sz 6.5 Str/Crvd Fngr Prepowdered	1	PR	✓	✓				
6515011498840	Gloves Surgeons Gen Surg Sz 7 Rubber Prepowdered Ster Disp	1	PR	✓					
6515011498841	Gloves Surgeons Gen Surg Sz 7.5 Rubber Prepowdered Ster Disp	1	PR	✓	✓				
6515011498842	Gloves Surgeons Gen Surg Sz 8 Rubber Prepowdered Ster Disp	1	PR	✓	✓				
6515003447800	Handle Surgical Knife Detachable Blade Sz 3 Narrow Nose	1	EA	✓	✓				
6515003417200	Holder Suture Needle Collier 5" Straight Jaw Box Lock CRS	1	EA	✓	✓				
6515002998736	Holder Suture Needle Hegar-Mayo 6" Serrated Carb Tungsten Jaw	1	EA	✓	✓				
6505010672812	Povidone-Iodine Topical Solution USP w/Dispenser	0.5	OZ	✓					
6515011190018	Probe General Operating Bulbous Tip 5" CRS Spatulate Handle	1	EA	✓	✓				
6515003651820	Scissors Gen Surg 5.5' One Blunt & One Sharp Blade Pt CRS	1	EA	✓	✓				
6515003644800	Scissors Iris 4-4.5" Straight Finger Ring O/A L Sharp Point .375" Cut	1	EA	✓	✓				
6515012127418	Suture Nonabs Surg Plas Sz 5-0 Sgl Arm Nylon Mono Ster	2	EA	✓					
6515009608192	Suture Nonabs Surg Sz 3-0 1.5' Ndl FS-1 Armed Black Nylon Ster	2	EA	✓	✓				
6515007344342	Suture Nonabsorb Sz 4-0 1 18" Strand C3 RVS Cutting Edge Nylon	2	EA	✓	✓				
6515013851697	Tube Drainage Surg Penrose 12x7/8x.11" Amber Rubber	1	EA	✓					
TASK 121: EYE IRRIGATION									
6530007709220	Basin Emesis CRS Kidney Shape 500ml	1	EA	✓					
6505013306267	Ringer's Injection Lactated USP 1000ml Bag	500	ML	✓					
6510007822698	Sponge Surgical Gauze ABS White 4x4" 8-Ply U/F Inj/Surg	10	EA	✓					
TASK 123: EYE CARE (DRESSINGS/EYE PATCH)									
6510007822698	Sponge Surgical Gauze ABS White 4x4" 8-Ply U/F Inj/Surg	2	EA	✓	✓	✓	✓		
6510009268883	Tape Adhesive Surgical White Porous Woven 2"x10YD	0.5	RL	✓	✓	✓	✓		

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**Appendix B
Shipboard Trauma Tasks & Supplies**

NSN	Nomenclature	Amount	UM	BDS	PML	ERK	JREK	Antidote	1 st Aid
TASK 126: SEIZURE CARE/PRECAUTIONS									
651000583047	Bandage Gauze 6-Ply Rolled White Sterile 4.5" x 4YD IS	3	RL	✓	✓	✓	✓		
6515003245500	Depressor Tongue Wood 6x.75x.062" Straight	5	EA	✓	✓			✓	
6510007822698	Sponge Surgical Gauze ABS White 4x4" 8-Ply U/F Inj/Surg	2	EA	✓	✓	✓	✓		
6510009268883	Tape Adhesive Surgical White Porous Woven 2"x10YD	0.5	RL	✓	✓	✓	✓		
TASK 127: PATIENT RESTRAINT (GAUZE, MITTS, TIES)									
651000583047	Bandage Gauze 6-Ply Rolled White Sterile 4.5" x 4YD IS	3	RL	✓	✓	✓	✓		
TASK 145: ADMINISTER APPROPRIATE MEDICATION^{1, 2}									
6505004807216	Aluminum Hydroxide Gel USP 64mg/ml	32	MG					✓	
6505001352881	Charcoal Activated USP Powder 15gm	100	GM					✓	
6505001394460	Dextrose Inj USP 50% 50ml Cartridge	1	EA			✓			
6505001487177	Diphenhydramine Hydrochloride Inj USP 50mg/ml 1ml Syringe	1-2	EA			✓			
6505001334449	Epinephrine Inj USP Aqueous Cartridge-Needle Unit 1ml	1-4	EA	✓		✓			
6505009269197	Ipecac Syrup USP 7% 30ml	30	ML					✓	
6505005986116	Lidocaine Hydrochloride Inj USP 1% 10mg/ml	15	ML	✓					
6505001538809	Lubricant Surgical 4 oz (113.4 Gm)	1.00	TU	✓					
6505014409134	Magnesium Sulfate Crystal Form	8	OZ					✓	
6505001490113	Morphine Sulfate Inj USP 10mg 1ml Cartridge-Needle Unit	1-12	EA	✓					
6505000797867	Naloxone Hydrochloride Inj USP .4mg/ml 1ml Amp	1	AM			✓			
6505006873663	Nitroglycerin Tablets USP .4mg	10	TB			✓			
6505001325181	Oxygen Usp 99% Cylinder Type D 95gl	2.00	EA	✓		✓			
6505001325199	Oxygen Usp 99% Cylinder H 1650 Gl	1.00	EA	✓					
6505010672812	Povidone-Iodine Topical Solution Usp 4fl oz Bottle W/Dispenser	1-4	OZ	✓					
6505007539902	Proparacaine Hydrochloride Ophthalmic Solution USP .5%	0.5-5	ML	✓					
6505013306267	Ringer's Injection Lactated Usp 1000ml Bag 12 Bags Per Package	2.00	PG	✓	✓	✓			
6505001415000	Sodium Bicarbonate USP	1	OZ					✓	
6505005607331	Sulfadiazine Silver Cream 1% Topical	50	GM	✓					
TASK 204: PROVIDE PATIENT SAFETY SPECIAL WATCH									
No Supplies Assigned									
TASK 221: PERICARDIOCENTESIS									
6530007709220	Basin Emesis CRS Kidney Shape 500ml	1	EA	✓					
6515013365874	Catheter & Needle Unit IV 16GA 1.25" w/Luer-Lock Hub Ster	1	EA	✓					
6515011498839	Gloves Surgeons Gen Surg Sz 6.5 Str/Crvd Fngr Prepowdered	1	PR	✓					

¹The required *supplies* vary depending on PC

²The required *amounts* vary depending on PC

**Appendix B
Shipboard Trauma Tasks & Supplies**

NSN	Nomenclature	Amount	UM	BDS	PML	ERK	JREK	Antidote	1 st Aid
6515011498840	Gloves Surgeons Gen Surg Sz 7 Rubber Prepowdered Ster Disp	1	PR	✓					
6515011498841	Gloves Surgeons Gen Surg Sz 7.5 Rubber Prepowdered Ster Disp	1	PR	✓					
6515011498842	Gloves Surgeons Gen Surg Sz 8 Rubber Prepowdered Ster Disp	1	PR	✓					
6510007822698	Sponge Surgical Gauze ABS White 4x4" 8-Ply U/F Inj/Surg	15	EA	✓					
6515014123101	Syringe Hypodermic Disp Ster 20ml Plastic I.S.	3	EA	✓					
6510009268883	Tape Adhesive Surgical White Porous Woven 2"x10YD	0.1	RL	✓					
TASK 248: FORCE FLUIDS									
No Supplies Assigned									
TASK 278: ARRANGE FOR PATIENT EVACUATION									
No Supplies Assigned									
TASK 279: ARRANGE AND DOCUMENT RETURNS TO DUTY									
No Supplies Assigned									
TASK 359: INDUCE LOCAL ANESTHESIA									
6505005986116	Lidocaine Hydrochloride Inj USP 1% 10mg/ml	10	ML	✓					
6510007863736	Pad Isopropyl Alcohol Impregnated Nonwvn Cotton/Rayon 1.5-2.6x1.8-2"	2	EA	✓					
6515001491206	Syringe & Needle Hypodermic Disposable 23GA 1" Ndl 3ml	2	EA	✓					
TASK 739: REDUCE FRACTURE/DISLOCATION									
6510001055807	Bandage Elastic Coban Brn 3"x5YD	1	RL	✓	✓				
6510009355822	Bandage Elastic Rolled 4"x4.5YD	1	RL	✓					
6510000583047	Bandage Gauze 6-Ply Rolled White Sterile 4.5"x 4YD I.S.	1	RL	✓	✓				
6515013448487	Injector Tube Plas Reusable Accom 1ml & 2ml Medication Needle Cart	1	EA	✓					
6510007863736	Pad Isopropyl Alcohol Impregnated Nonwvn Cotton/Rayon 1.5-2.6x1.8-2"	2	EA	✓					
6505001490113	Morphine Sulfate Inj USP 10mg 1ml Cartridge-Needle Unit	2	EA	✓					
TASK 748: ASSEMBLE MATERIAL/CLEAN UP									
7240007710945	Basin Wash CRS 4.25 QT	1	EA	✓					
7240007730975	Pail Utility CRS 12" Surg Operation Room 12 QT	1	EA	✓					
6510007822698	Sponge Surgical Gauze ABS White 4x4" 8-Ply U/F Inj/Surg	10	EA	✓	✓	✓	✓		
TASK 802: INITIAL/SUBSEQUENT NON-SURG DEBRIDE OF BURN OR OPEN WOUND									
7240007710945	Basin Wash CRS 4.25 QT	1	EA	✓					
6515006600011	Blade Surgical Knife Detachable Car Steel #10	1	EA	✓	✓				
6515006600010	Blade Surgical Knife Detachable Steel #11 Small Tang u/w 3 3L 7 9 Hdl	1	EA	✓	✓				

¹The required *supplies* vary depending on PC

²The required *amounts* vary depending on PC

Appendix B Shipboard Trauma Tasks & Supplies

NSN	Nomenclature	Amount	UM	BDS	PML	ERK	JRERK	Antidote	1 st Aid
6530013344379	Brush-Sponge Surgical Scrub Ster Non-Irritating I.S.	1	EA	✓					
6515003447800	Handle Surgical Knife Detachable Blade Sz 3 Narrow Nose	1	EA	✓	✓				
6505005986116	Lidocaine Hydrochloride Inj USP 1% 10mg/ml	10	ML	✓	✓				
6505010672812	Povidone-Iodine Topical Solution USP 4 Fl Oz Bottle w/Dispenser	0.5	OZ	✓					
6505013308926	Sodium Chloride Irrigation USP .9% 1000ml Bottle	1000	ML	✓					
6515001491206	Syringe & Needle Hypodermic Disp 23GA 1" Ndl 3ml	2	EA	✓	✓				
TASK A2: REMOVE CASUALTY FROM DANGER									
No Supplies Assigned									
TASK A6: APPLY TOURNIQUET									
6515011061352	Skin Marker Surgical Pen Type Ster Disp Fine Tip Gentian Violet	1	EA	✓	✓				
6515003830565	Tourniquet Nonpneumatic 41.5-42.5x1.469-1.531" Camouflaged	1	EA	✓	✓				
TASK A10: PLACE IN COMA POSITION									
No Supplies Assigned									
TASK A12: OCCLUDE SUCKING CHEST WOUND									
6510014081920	Dressing Chest Wound Seal	1	EA	✓					
TASK A30: WET/COLD INJURY THERAPY									
7210009356666	Blanket Casualty Plastic Film Alum Coated 96x56" Green	1	EA	✓	✓	✓	✓		
TASK Z014: INTUBATION									
6515003245500	Depressor Tongue Wood 6x.75x.062" Straight	1	EA	✓		✓			
6515006165052	Laryngoscope Macintosh Infant/Child/Adult 4 Det Blades w/Btry Hdl	1	EA	✓		✓			
6505001490113	Morphine Sulfate Inj USP 10mg 1ml Cartridge-Needle Unit	1	EA	✓					
6510007863736	Pad Isopropyl Alcohol Impregnated Nonwvn Cotton/Rayon 1.5-2.6x1.8-2"	1	EA	✓		✓			
6515013948327	Stylet Tracheal Tube 7.5-10mm Plas Ster Disp	1	EA	✓		✓			
6515007540412	Syringe Hypodermic GP 10-12ml Cap Luer Slip w/o Ndl Concentric Tip	1	EA	✓		✓			
6510009268883	Tape Adhesive Surgical White Porous Woven 2"x10YD	0.25	RL	✓		✓			
6515001050720	Tube Endotracheal Murphy E12 6mmx8.1mmx28cm Plastic Disp	1	EA			✓			
6515001050744	Tube Endotracheal Murphy E12 w/Cuff 7mmx15mmx30cm Conn Disp	1	EA	✓		✓			
6515001050759	Tube Endotracheal Murphy E12 w/Cuff 8mmx10.7mmx32cm Disp	1	EA	✓		✓			

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**Appendix B
Shipboard Trauma Tasks & Supplies**

NSN	Nomenclature	Amount	UM	BDS	PML	ERK	JREK	Antidote	1 st Aid
TASK Z027: CARDIO ARREST RESUSCITATION									
6505001334449	Epinephrine Inj USP Aqueous Cartridge-Needle Unit 1ml	2	EA	✓		✓			
6515013448487	Injector Tube Plas Reusable Accom 1ml & 2ml Medication Needle Cart	1	EA	✓		✓			
6515012761417	Mask Oronasal Univ Sz c/o Head Strap Coupling & Preinflate Cushion	1	EA	✓	✓	✓	✓		
TASK Z037: BAG VALVE MASK PATIENT									
6515010617812	Resuscitator Hand Operated Intermittant Positive Pressure	1	EA	✓	✓	✓			
6515005628308	Tube Inhaler Force-Fit 72" Plastic w/Molded Resilient Tape Disp	1	EA	✓					
TASK Z042: INSERT CHEST TUBE									
6530013344379	Brush-Sponge Surgical Scrub Ster Non-Irritating I.S.	1	EA	✓					
6515003343800	Forceps Hemostatic Kelly 5.25-5.75" Slightly Curved Jaw Str Hdl CRS	1	EA	✓					
6515003346800	Forceps Hemostatic Kelly 5.5" L 1" Straight Jaw Box Lock CRS	1	EA	✓					
6515011498839	Gloves Surgeons Gen Surg Sz 6.5 Str/Crvd Fngr Prepowdered	1	PR	✓					
6515011498840	Gloves Surgeons Gen Surg Sz 7 Rubber Prepowdered Ster Disp	1	PR	✓					
6515011498841	Gloves Surgeons Gen Surg Sz 7.5 Rubber Prepowdered Ster Disp	1	PR	✓					
6515011498842	Gloves Surgeons Gen Surg Sz 8 Rubber Prepowdered Ster Disp	1	PR	✓					
6515002998736	Holder Suture Needle Hegar-Mayo 6" Serrated Carb Tungsten Jaw	1	EA	✓					
6505001538809	Lubricant Surgical	0.2	OZ	✓					
6505010672812	Povidone-Iodine Topical Solution USP w/Dispenser	0.5	OZ	✓					
6515003651820	Scissors Gen Surg 5.5" One Blunt & One Sharp Blade Pt CRS	1	EA	✓					
6510007822698	Sponge Surgical Gauze ABS White 4x4" 8-Ply U/F Inj/Surg	10	EA	✓					
6515009608192	Suture Nonabsorb Surg Sz 3-0 1.5' L Ndl FS-1 Armed Black Nylon Ster	1	EA	✓					
6510009268883	Tape Adhesive Surgical White Porous Woven 2" x 10YD	0.25	RL	✓					
6530007939945	Tray Instrument Rectangle CRS 10.5x8x2" TyII Sz 2	1	EA	✓					
6515009269150	Valve Surg Drain Heimlich 4.5" L 1" D Flutter Rbbr Ster Disp	1	EA	✓					
TASK Z083: EXPOSE PATIENT FOR EXAM									
6515003634150	Blade Finger Ring Saw Steel Carbon	1	EA		✓				
6515003634100	Saw Finger Ring .75" Blade D 6" L .1875" Arbor Hole Diameter	1	EA	✓	✓				
6515009357138	Scissors Bandage 7.25" Angle to Hdl 1.5" Cut Lg Blunt Pts CRS	1	EA	✓	✓	✓	✓		✓
6515003638840	Scissors Bandage Lister Dsgn Ang to Hdl 7-7.5" L 2" Cut Lg Crss	1	EA	✓					
TASK Z094: EXTREMITY TRACTION APPLICATION/ADJUST									
6515012508936	Splint Traction-Extraction Adult Aluminum Dual-Hinged w/Case	1	EA	✓					

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**Appendix B
Shipboard Trauma Tasks & Supplies**

NSN	Nomenclature	Amount	UM	BDS	PML	ERK	JERK	Antidote	1 st Aid
TASK ZZ77: PREPARE FOR EVAC GROUND/AIR									
No Supplies Assigned									
TASK ZZ01: INDUCE VOMITING									
6505009269197	Ipecac Syrup USP 7%	15	ML					✓	
TASK ZZ03: NEEDLE THORACOSTOMY									
6515013365874	Catheter & Needle Unit IV 16GA 1.25" w/Luer-Lock Hub Ster	1	EA	✓					
6510007863736	Pad Isopropyl Alcohol Impregnated Nonwvn Cotton/Rayon 1.5-2.6x1.8-2"	1	EA	✓					
6510007822698	Sponge Surgical Gauze ABS White 4x4" 8-Ply U/F Inj/Surg	4	EA	✓					
6515014123101	Syringe Hypodermic Disp Ster 20ml Plastic I.S.	3	EA	✓					
TASK ZZ27: BASIC EXAMINATION AREA SETUP									
6530013215587	Light Surgical Ceiling Heat Filtered Color Corrected	1	EA	✓					
6530009622121	Pad Operating Table Plastic 2 Sections Head/Leg/Foot for Shipboard	1	EA	✓					

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Appendix C
AMMAL 0955 - Battle Dressing Station

6505001334449	EPINEPHRINE INJECTION USP AQUEOUS CARTRIDGE NEEDLE UNIT IML	1.00	PG	0.21	0.01	\$19.52
6505005986116	LIDOCAINE HYDROCHLORIDE INJECTION USP 10MG PER ML 50ML BOTTLE	1.00	BT	0.28	0.01	\$1.05
6505001538809	LUBRICANT SURGICAL 4 OZ (113.4 GM)	1.00	TU	0.35	0.02	\$0.65
6505001490113	MORPHINE SULFATE INJECTION USP 10MG IML CARTRIDGE-NEEDLE	2.00	BX	0.28	0.01	\$6.61
6505001325181	OXYGEN USP 99% CYLINDER TYPE D 95GL	2.00	EA	13.00	0.30	\$93.74
6505001325199	OXYGEN USP 99% CYLINDER H 1650 GL	1.00	EA	133.00	2.60	\$218.18
6505010672812	POVIDONE-IODINE TOPICAL SOLUTION USP 4FL OZ BOTTLE W/DISPENSER	2.00	BT	0.76	0.01	\$0.49
6505007539902	**PROPARACAINE HYDROCHLORIDE OPHTHALMIC SOLUTION USP 0.5% 15	2.00	BT	0.12	0.01	\$3.57
6505013306267	RINGER'S INJECTION LACTATED USP 1000ML BAG 12 BAGS PER PACKAGE	2.00	PG	6.55	0.12	\$6.24
6505005607331	SULFADIAZINE SILVER CREAM 1% TOPICAL 400GM JAR	3.00	JR	1.25	0.05	\$14.54
6510009268883	**ADHESIVE TAPE SURGICAL POROUS WOVEN 2 INCHES BY 10 YARDS 6S	1.00	PG	1.28	0.06	\$8.14
6515013215211	*AIRWAY KIT PERCUTANEOUS EMER 10S	0.10	PG	0.20	0.05	\$156.06
6515012331920	*AIRWAY NASOPHARYNGEAL 6MM ID 8MM OD PLAS 10S	0.20	PG	0.25	0.07	\$38.43
6515011649637	AIRWAY PHARYNGEAL 4" AIRWAY/CUT AWAY FLANGE KINK RES 30FR	0.10	PG	1.00	0.01	\$32.08
6515009582232	**AIRWAY PHARYNGEAL 4" AIRWAY/CUT AWAY FLANGE 80MM 12S	0.25	PG	0.26	0.03	\$3.98
6510009355822	BANDAGE ELASTIC FLESH ROLLED 4.5YDX4"WASHABLE PRESSURE 12S	1.00	PG	2.00	0.18	\$7.28
6510001055807	**BANDAGE ELASTIC RUBBER BROWN 3"X5yds 24S (Note: Coban™)	0.50	PG	6.94	0.13	\$29.76
6510009355823	BANDAGE ELASTIC FLESH ROLLED NONSTERILE 6"X 4.5 YDS 12S	0.25	PG	3.25	0.28	\$19.31
6510000583047	BANDAGE GAUZE 6-PLY ROLLED WHITE STERILE 4YD X 4.5IN I.S. 100S	0.40	PG	1.15	0.03	\$102.51
6510002011755	BANDAGE MUSLIN COMPRESSED BROWN 37X37X52" TRIAN W/SFTY PINS	20.00	EA	0.13	0.01	\$2.16
6530007709220	BASIN EMESIS CORROSION RESISTING STEEL	1.00	EA	0.85	0.03	\$14.24
7240007710945	BASIN WASH CORROSION-RESISTING STEEL 4-1/4 QT NATURAL	1.00	EA	2.67	0.16	\$6.41
6135008357211	BATTERY NONRECHARGEABLE CARBON-ZINC 1.5 VOLTS 1.344IN DIA	0.50	PG	5.00	0.14	\$9.15
6515006600011	BLADE SURG KNIFE DET NO.10 SMALL TANG U/W 3 L 7 9 HANDLE CS 6S	3.00	PG	0.03	0.00	\$1.17
6515006600010	BLADE SURG KNIFE DET NO.11 SMALL TANG U/W 3 L 7 9 HANDLE CS 6S	3.00	PG	0.03	0.00	\$0.89
7210001395779	BLANKET BED COTTON THERMAL WEAVE WHITE 66X90 INCHES	1.00	EA	3.37	0.57	\$12.83
7210009356666	BLANKET CASUALTY PLASTIC FILM ALUM COATED 96X56INCHES GREEN	5.00	EA	0.16	0.01	\$7.04
6530013344379	BRUSH-SPONGE SURGICAL SCRUB STER NON-IRRITATING IND SEALED	0.10	PG	27.00	4.00	\$128.47
6515004588411	CATHETER & CONN SUCT TRACH DSGN 14FR WHISTLE TIP 2 EYES MAX	0.10	PG	3.55	0.62	\$16.40
6515013373681	CATHETER & NDL UNIT IV 18GAX1.25" W/NDL GUARD BEVELED TIP 200S	0.10	PG	1.00	0.40	\$388.43
6515013365874	CATHETER & NDL UNIT IV 16GAX1.25" W/LUER-LOCK HUB STER 200S	0.10	PG	4.00	0.40	\$388.43
6515012198569	CATHETER SET PNEUMOTHORAX 9FR RADIOGRAPH 18GAX21CM TROCAR	2.00	EA	1.23	0.23	\$85.37
6515001490104	CATHETERIZATION KIT URETHRAL W/BOT-OUTLET DRAIN BAG & 16FR	2.00	EA	0.71	0.25	\$6.71
6515003245500	DEPRESSOR TONGUE 6X0.75X0.062" STRAIGHT 100S	0.25	PG	0.69	0.04	\$1.10
6530002999608	DRAPE SURGICAL GENERAL SURGERY GREEN 24 X 24 INCHES 6S	2.00	BG	0.33	0.02	\$9.19
6510014422013	DRESSING BURN FIRST AID 10CM LONG 8CM WIDE 20 PER PACKAGE	3.00	PG	0.55	0.12	\$68.08
6510012399781	DRESSING BURN FIRST AID POLYESTER STERILE 8X16" 5 PER PACKAGE	2.00	PG	4.00	0.38	\$50.51
6510014081920	*DRESSING CHEST WOUND ONE WAY VALVE SELF ADHESIVE KRATON	0.20	PG	1.55	0.01	\$82.34
6510002017425	DRESSING FIRST AID FIELD CAMOUFLAGED 11.5-12"W 11.5-12"LG ABS	12.00	EA	0.50	0.04	\$5.67

* Added to upgrade clinical capability

** Added as an upgrade for an existing item

Appendix C
AMMAL 0955 – Battle Dressing Station

6510002017430	DRESSING FIRST AID FIELD CAMOUFLAGED 7.75-8.25" LG 7.25-7.75"W	EA	12.00	0.29	0.02	\$3.94
65100008835573	DRESSING FIRST AID FIELD WHITE 4"W X 6.250-7.250" LG ABSORBENT	EA	12.00	0.14	0.01	\$2.24
6230001631856	FLASHLIGHT ILLUMINATION POWER SOURCE 3 VOLTAGE	EA	2.00	0.10	0.00	\$2.62
6515003343800	FORCEPS HEMO KELLY 5.25-5.75" LG SLIGHTLY CURVED JAW STR HDL	EA	8.00	0.15	0.01	\$13.30
6515003346800	FORCEPS HEMO KELLY 5.50" LG 1" LG STRAIGHT JAW BOX LOCK CRS	EA	8.00	0.15	0.01	\$14.87
6515003379800	FORCEPS TISSUE 5" LG TWEEZER STRAIGHT AND SMOOTH JAW SQ TIP CRS	EA	4.00	0.08	0.01	\$10.20
6515003377800	FORCEPS TISSUE ADSON 4.50" LG TWEEZER STRAIGHT & SMOOTH JAW	EA	4.00	0.08	0.01	\$34.90
6515011498839	GLOVES SURGEONS GEN SURG SZ 6.5 STR/CRVD FNGR PREPOWDERED 50S	PG	0.10	4.56	0.48	\$21.50
6515011498840	GLOVES SURGEONS GEN SURG SZ 7 RBRR PREPOWDERED STER DISP 50PR	PG	0.10	4.56	0.48	\$21.50
6515011498841	GLOVES SURGEONS GEN SURG SZ 7.5 RBRR PREPOWDERED STER DISP 50S	PG	0.10	4.56	0.48	\$21.50
6515011498842	GLOVES SURGEONS GEN SURG SZ 8 RBRR PREPOWDERED STERILE DISP	PG	0.10	4.56	0.48	\$27.39
6515003447800	HANDLE SURGICAL KNIFE DETACHABLE BLADE SIZE 3 NARROW NOSE	EA	4.00	0.08	0.00	\$5.87
6515003417200	HOLDER SUTURE NEEDLE COLLIER 5" LG STRAIGHT JAW BOX LOCK CRS	EA	4.00	0.16	0.01	\$23.48
6515002998736	HOLDER SUTURE NEEDLE HEGAR-MAYO 6" LG SERRATED CARB	EA	4.00	0.19	0.01	\$16.04
4720012884685	HOSE, NONMETALIC, OXYGEN, GAS, H2O RESISTANT	EA	1.00	0.50	1.00	\$35.40
6515004696573	HUMIDIFIER OXYGEN 400CC CAP DIFFUSER TYPE W/SELECTOR SWITCH	EA	1.00	1.33	0.01	\$66.20
6515013448487	INJECTOR TUBE PLAS ACCOM IML & 2ML MEDICATION NEEDLE UNIT	EA	1.00	0.11	0.07	\$3.13
6515001179021	INTRAVENOUS INJ SET VENTED 15 DROPS PER ML 78" LG STER DISP 48S	PG	0.25	6.38	1.05	\$54.07
6515006165052	LARYNGOSCOPE MACINTOSH INFANT/CHILD/ADL 4 BLADES	EA	1.00	3.96	0.16	\$151.76
6530013215587	LIGHT SURGICAL CEILING HEAT FILTERED	EA	1.00	30.00	7.50	\$1,390.07
6515008886122	MASK ORONASAL TRANSLUCENT PLAS FACE-PIECE W/CONN 50S	PG	0.20	5.50	1.50	\$40.69
6515012761417	MASK ORONASAL UNIV SZ C/O HEAD STRAP COUPLING&PREINFLATE	EA	2.00	0.10	0.01	\$16.25
6515014177877	MINILATOR OXYGEN HO	EA	1.00	0.55	0.01	\$170.30
6515005507199	OTOSCOPE AND OPHTHALMOSCOPE SET C/O SMALL MEDIUM & LGE SPEC	SE	1.00	2.21	0.19	\$219.10
6510007863736	PAD ISOPROPYL ALCOHOL IMPREGNATED NONWVN COTTON/RAYONI	PG	1.00	0.50	0.10	\$0.80
6530009622121	PAD OPERATING TABLE PLASTIC TWO SECTIONS FOR SHIPBOARD USE	EA	1.00	5.42	0.88	\$108.43
7240007730975	PAIL UTILITY CORROSION RESISTING STEEL 12 QT 12 INCH HEIGHT	EA	1.00	5.17	0.42	\$36.06
6515011190018	PROBE GEN OPER 5" LG .062" DIA CRS SPATULATE HANDLE BULBOUS TIP	EA	4.00	0.36	0.05	\$3.55
6680011746276	REGULATOR PRESSURE MEDICAL GAS ADMINISTRATION APPAR OXYGEN	EA	2.00	5.00	0.66	\$92.90
6515010617812	RESUSCITATOR HAND OPERATED INTERMITTENT POSITIVE PRESSURE	EA	1.00	0.92	0.17	\$85.89
6515003634100	SAW FINGER RING .75" BLADE DIA 6" LG 0.1875" ARBOR HOLE DIAMETER	EA	1.00	0.25	0.01	\$20.94
6515009357138	SCISSORS BANDAGE 7.25" LG ANG TO HDL 1.50" CUT LG BLUNT PTS CRS	EA	2.00	0.19	0.01	\$4.41
6515003638840	SCISSORS BANDAGE LISTER DSGN ANG TO HDL 7-7.5" LG 2" CUT LG CRSS	EA	2.00	0.21	0.01	\$26.61
6515003651820	SCISSORS GEN SURG 5.50" LG ONE BLUNT AND ONE SHARP BLADE PT CRS	EA	4.00	0.13	0.01	\$17.22
6515003644800	SCISSORS IRIS 4-4.50" O/A LG SHARP POINTS 0.375" CUT LENGTH CRS	EA	4.00	0.12	0.01	\$18.78
7210000811417	SHEET BED COTTON-POLYESTER WHITE 104X72INCHES SOLID PLAIN FLAT	EA	4.00	1.50	0.28	\$11.50
6515011061352	SKIN MARKER SURG PEN TYPE STER DISP FINE TIP GENTIAN VIOLET 100S	PG	0.02	3.00	0.27	\$44.84
6515010394884	SPHYGMOMANOMETER ANEROID 300MM MAX CALIBRATION W/CLIP	EA	2.00	1.25	0.10	\$19.23
6515001686894	SPLINT FINGER PHALANGE 18X.75" EITHER HAND MAY BE CUT & BENT	PG	1.00	0.92	0.06	\$7.34

* Added to upgrade clinical capability

** Added as an upgrade for an existing item

Appendix C
AMMAL 0955 - Battle Dressing Station

6515009040116	SPLINT LEG PNEUMATIC ADULT WRAP-AROUND HOOK&CORD CLOS	2.00	EA	1.81	0.08	\$14.34
6515012508936	SPLINT TRACTION-EXTRICATION ADULT ALUMINUM DUAL-HINGED	1.00	EA	1.50	0.10	\$385.18
6515012254681	SPLINT UNIVERSAL 36X4.50" MALLEABLE ALUM RADIOLUCENT LTWT	1.00	PG	5.00	0.48	\$49.89
6510007822698	SPONGE SURG GAUZE ABS WHITE 4X4"8-PLY U/F INJURIES OR	2.00	PG	0.83	0.07	\$6.01
6515013041027	**STETHOSCOPE 20" LG ADULT CHILD INFANT SIZE BELLS	2.00	EA	0.70	0.06	\$10.98
6530007844315	STRAP WEB CTN MIL-W-530 TY 2B CL 4 MILDEW/WATER RESIST 66X1.469"	2.00	EA	0.37	0.01	\$5.34
6515013948327	STYLET TRACHEAL TUBE 7.5MM TO 10MM TRACHEAL TUBES DISP 10S	0.20	PG	2.10	0.02	\$44.62
6515012429123	SUCTION APPARATUS OROPHARYNGEAL 120/230V 50/60HZ AC PRIBLE	1.00	EA	12.50	0.91	\$556.80
6515014524435	SUPPORT CERVICAL LAERDAL DESIGN ADJUSTABLE ADULT COLLAR	1.00	EA	0.55	0.12	\$14.41
6515012127418	SUTURE NONABS SURG PLAS SURG SZ 5-0 SGL ARMED NYLON MONO	0.50	PG	0.36	0.04	\$48.05
6515009608192	SUTURE NONABS SURG SZ 3-0 1.50' LG NDL FS-1 BLACK NYLON STER 36S	0.50	PG	0.39	0.02	\$64.23
6515007344342	SUTURE NONABS SZ 4-0 1 18" STRAND C3 RYS CUTTING EDGE NYLON 36S	0.50	PG	0.73	0.04	\$29.23
6515001491206	SYRINGE & NEEDLE HYPODERMIC DISPOSABLE 23GAGE 1IN NDL 3ML 100S	0.20	PG	2.45	0.23	\$7.34
6515007540412	SYRINGE HYPO GP 10ML CAP LUER SLIP W/O NDL CONCENTRIC TIP 100S	0.10	PG	5.80	0.57	\$15.26
6515014123101	*SYRINGE HYPODERMIC GP 20CU CM CAPACITY DISP STER25S	0.16	PG	1.20	0.01	\$6.01
6515014570288	SYRINGE IRRIGATING PISTON 60ML 0.5 OUNCES STER DISP 120S	0.10	PG	1.25	0.25	\$101.00
8465013376792	TAG ID PERSONNEL CARDBOARD 8.188INX4.062IN FIELD TRIAGE 200S	1.00	PG	0.20	0.40	\$38.98
6515003830565	TOURNIQUET NONPNEUMATIC 41.50-42.50X1.469-1.531" CAMOUFLAGED	2.00	EA	0.24	0.02	\$5.18
6530007939945	TRAY INSTRUMENT CORROSION RESISTING STEEL 10-1/2 X 8 X 2 INCHES	4.00	EA	1.50	0.15	\$7.70
6515013851697	TUBE DRAINAGE SURG PENROSE DSGN 12X7/8X0.011" AMBER RUBBER	0.10	PG	5.20	1.40	\$100.16
6515005628308	TUBE INHALER FORCE-FIT 72"LG PLASTIC W/MOLDED RESILIENT TAPE	0.20	PG	4.50	0.90	\$21.88
6515001490316	TUBE STOMACH SURG SALEM E19 W/FUNNEL 16FR DBL LUMEN 48" LG 50S	0.30	PG	4.00	0.70	\$63.30
6515011470203	TUBE SUCTION SURGICAL YANKAUER 72"LG C9 STR SUMP TIP STERILE	0.10	PG	9.00	0.95	\$99.39
6515001050744	TUBE TRACHEAL MURPHY E12 W/CUFF 7.0MM ID 30CM LG W/15MM CONN	0.50	PG	1.00	0.05	\$46.79
6515001050759	TUBE TRACHEAL MURPHY E12 W/CUFF 8.0MM ID 10.7MM DIA 32CM LG 10S	0.50	PG	1.00	0.05	\$20.74
6515009269150	*VALVE SURG DRAIN HEIMLICH 4.50" LG 1" DIA FLUTTER RBRR STER 10S	0.20	PG	0.06	0.02	\$145.35
5120002643794	WRENCH,ADJUSTABLE	1.00	EA	0.50	0.40	\$46.29
8120005508484	YOKE-ADAPTER COMPRESSED GAS CYLINDER FLUSH TYPE OUTLET	2.00	EA	0.81	0.01	\$17.61

TOTAL WEIGHT=Σ(QUANTITY X UNIT WEIGHT) IN POUNDS =

TOTAL VOLUME=Σ(QUANTITY X UNIT CUBE) IN CUBIC FEET =

TOTAL COST=Σ(QUANTITY X UNIT COST) =

355.8 LBS.

27.5 cu. ft.

\$6,373.38

* Added to upgrade clinical capability
** Added as an upgrade for an existing item

**Appendix D
AMMAL 0964 - Portable Medical Locker**

NSN	NOMENCLATURE	QTY	UI	UW	UC	US
6505005986116	LIDOCAINE HYDROCHLORIDE INJ 10MG PER ML 50ML BT	1.00	BT	0.28	0.01	\$1.05
6505013306267	RINGER'S INJECTION LACTATED USP 1000ML BAG 12 BAGS PER PACKAGE	1.00	PG	6.55	0.12	\$6.24
6505005607331	SULFADIAZINE SILVER CREAM 1% TOPICAL 400GM JAR	3.00	JR	1.25	0.05	\$14.54
6510009268883	**ADHESIVE TAPE SURGICAL POROUS WOVEN 2 INCHES BY 10 YARDS 6S	1.00	PG	1.28	0.06	\$8.14
6515012331920	*AIRWAY NASOPHARYNGEAL 6MM ID 8MM OD PLAS 10S	0.20	PG	0.25	0.07	\$38.43
6515011649637	AIRWAY PHARYNGEAL 4" AIRWAY/CUT AWAY FLANGE 30FR 30S	0.10	PG	1.00	0.01	\$32.08
6515009582232	**AIRWAY PHARYNGEAL 4" AIRWAY/CUT AWAY FLANGE 80MM 12S	0.25	PG	0.26	0.03	\$3.98
6510001055807	**BANDAGE ELASTIC RUBBER BROWN 3"X5yds 24S (Note: Coban™)	0.50	PG	6.94	0.13	\$29.76
6510000583047	**BANDAGE GAUZE 6-PLY ROLLED WHITE STERILE 4YD X 4.5IN I.S. 100S	0.15	PG	1.15	0.03	\$102.51
6510002011755	BANDAGE MUSLIN COMPRESSED BROWN 37X37X52" TRIANG	6.00	EA	0.13	0.01	\$2.16
6135008357211	BATTERY NONRECHARGEABLE CARBON-ZINC 1.5 VOLTS 1.344IN DIA	0.50	PG	5.00	0.14	\$9.15
6515003634150	BLADE FINGER RING SAW .018" THICK .75" DIAMETER 90 TEETH STEEL	1.00	EA	0.01	0.00	\$16.86
6515006600011	BLADE SURG KNIFE DET NO.10 SMALL TANG U/W 3 3L 7 9 HANDLE CS 6S	1.00	PG	0.03	0.00	\$1.17
6515006600010	BLADE SURG KNIFE DET NO.11 SMALL TANG U/W 3 3L 7 9 HANDLE CS 6S	1.00	PG	0.03	0.00	\$0.89
7210009356666	BLANKET CASUALTY PLASTIC FILM ALUM COATED 96X56INCHES GREEN	2.00	EA	0.16	0.01	\$7.04
6515013373681	CATHETER & NDL UNIT IV 18GAX1.25" W/NDL GUARD BEVELED TIP 200S	0.05	PG	1.00	0.40	\$388.43
6515013365874	CATHETER & NDL UNIT IV 16GAX1.25" W/LUER HUB 200S	0.05	PG	4.00	0.40	\$388.43
6515003245500	DEPRESSOR TONGUE 6X0.75X0.062" STRAIGHT 100S	0.25	PG	0.69	0.04	\$1.10
6530002999608	DRAPES SURGICAL GEN SURG GREEN 24 X 24 INCHES 6S	1.00	EA	0.33	0.02	\$9.19
6510014422013	DRESSING BURN FIRST AID 10CM LONG 8CM WIDE 20 PER PACKAGE	1.00	PG	0.55	0.12	\$68.08
6510002017425	DRESSING 1ST AIDFIELD CAMO 11.5-12"W 11.5-12"LG ABS	5.00	EA	0.50	0.04	\$5.67
6510002017430	DRESSING FIRST AID FIELD CAMO 7.75-8.25"LG 7.25-7.75"W	5.00	EA	0.29	0.02	\$3.94
6510000835573	DRESSING FIRST AID FIELD WHITE 4"W X 6.250-7.250" LG ABS	8.00	EA	0.14	0.01	\$2.24
6230001631856	FLASHLIGHT ILLUMINATION POWER SOURCE 3 VOLTAGE	2.00	EA	0.10	0.00	\$2.62
6515003343800	FORCEPS HEMO KELLY 5.25-5.75" LG SLIGHTLY CURVED JAW STR HDL	2.00	EA	0.15	0.01	\$13.30
6515003346800	FORCEPS HEMO KELLY 5.50" LG 1" LG STR JAW BOX LOCK	2.00	EA	0.15	0.01	\$14.87
6515003379800	FORCEPS TISSUE 5" LG TWEEZER STRAIGHT AND SMOOTH JAW SQ TIP	1.00	EA	0.08	0.01	\$10.20
6515003377800	FORCEPS TISSUE ADSON 4.50" LG TWEEZER STRAIGHT & SMOOTH JAW	1.00	EA	0.08	0.01	\$34.90
6515011498839	GLOVES SURGEONS GEN SURG SZ 6.5 STR/CRVD FNGR PREPOWDERED 50S	0.01	PG	4.56	0.48	\$21.50
6515011498841	GLOVES SURGEONS GEN SURG SZ 7.5 RBBR PREPOWDERED STER 50S	0.10	PG	4.56	0.48	\$21.50
6515011498842	GLOVES SURGEONS GEN SURG SZ 8 RBBR PREPOWDERED STER 50S	0.10	PG	4.56	0.48	\$27.39
6515003447800	HANDLE SURGICAL KNIFE DETACH BLADE SZ 3 NARROW NOSE	1.00	EA	0.08	0.00	\$5.87
6515003417200	HOLDER SUTURE NEEDLE COLLIER 5" LG STRAIGHT JAW BOX LOCK CRS	1.00	EA	0.16	0.01	\$23.48
6515002998736	HOLDER SUTURE NEEDLE HEGAR-MAYO 6" LG SERRATED	1.00	EA	0.19	0.01	\$16.04
6515001179021	INTRAVENOUS INJ SET VENTED 15 DROPS P/ML 78" LG 48S	0.25	PG	6.38	1.05	\$54.07
6515012761417	MASK ORONASAL UNIV SZ HEAD STRAP PREINFLATE CUSH (Note: CPR)	1.00	EA	0.10	0.01	\$16.25
6515005507199	OTO/OPHTHALMOSCOPE SET C/O SMALL MEDIUM & LGE SPECULUMS	1.00	SE	2.21	0.19	\$219.10

* Added to upgrade clinical capability

** Added as an upgrade for an existing item

Appendix D
AMMAL 0964 – Portable Medical Locker

NSN	NOMENCLATURE	QTY	UI	UW	UC	US
6510007863736	PAD ISOPROPYL ALCOHOL IMPREG NONWVN COTTON/RAYON1.5 X 2"100	1.00	PG	0.50	0.10	\$0.80
6515011190018	PROBE GEN OPER 5" LG .062" DIA CRS SPATULATE HANDLE BULBOUS TIP	1.00	EA	0.36	0.05	\$3.55
6515010617812	RESUSCITATOR HAND OPERATED INTERMITTENT POSITIVE PRESSURE	1.00	EA	0.92	0.17	\$85.89
6515003634100	SAW FINGER RING .75"BLADE DIA 6"LG 0.1875" ARBOR HOLE DIAMETER	1.00	EA	0.25	0.01	\$20.94
6515009357138	SCISSORS BANDAGE 7.25" LG ANG TO HDL 1.50" CUT LG BLUNT PTS CRS	1.00	EA	0.19	0.01	\$4.41
6515003651820	SCISSORS GEN SURG 5.50" LG ONE BLUNT & ONE SHARP BLADE PT	1.00	EA	0.13	0.01	\$17.22
6515003644800	SCISSORS IRIS 4-4.50" O/A LG SHARP POINTS 0.375" CUT LENGTH CRS	1.00	EA	0.12	0.01	\$18.78
6515011061352	SKIN MARKER SURG PEN TYPE STER DISP FINE TIP GENTIAN VIOLET 100S	0.03	PG	3.00	0.27	\$44.84
6515010394884	SPHYGMOMANOMETER ANEROID 300MM W/CLIP FOR CUFF	1.00	EA	1.25	0.10	\$19.23
6515012254681	SPLINT UNIVERSAL 36X4.50" MALLEABLE ALUM RADIOLUC GRAY12	0.50	PG	5.00	0.48	\$49.89
6510007822698	SPONGE SURG GAUZE ABS WHITE 4X4"8-PLY INJURIES SURG 200	2.00	PG	0.83	0.07	\$6.01
6515013041027	**STETHOSCOPE 20" LG ADULT/CHILD SIZE BELLS	2.00	EA	0.70	0.06	\$10.98
6515014524435	SUPPORT CERVICAL LAERDAL DESIGN ADJUSTABLE ADULT COLLAR	1.00	EA	0.55	0.12	\$14.41
6515009608192	*SUTURE NONABS SURG SZ 3-0 1.50" LG NDL FS-1 BLACK NYLON STER 36S	0.25	PG	0.39	0.02	\$64.23
6515007344342	*SUTURE NONABS SZ 4-0 1 18" STRAND C3 RVS CUTTING EDGE NYLON 36S	0.25	PG	0.73	0.04	\$29.23
6515001491206	SYRINGE & NEEDLE 23GAGE 1IN NDL 3ML 100S	0.10	PG	2.45	0.23	\$7.34
8465013376792	TAG ID PERSONNEL CARDBOARD 8.188INX4.062IN FIELD TRIAGE 200S	0.50	PG	0.20	0.40	\$38.98
6515003830565	TOURNIQUET NONPNEUMATIC 41.50-42.50X1.469-1.531" CAMO	4.00	EA	0.24	0.02	\$5.18
6530007939945	TRAY INSTRUMENT CRS10-1/2 X 8 X 2 INCHES	1.00	EA	1.50	0.15	\$7.70

TOTAL WEIGHT=Σ(QUANTITY X UNIT WEIGHT) IN POUNDS =

TOTAL VOLUME=Σ(QUANTITY X UNIT CUBE) IN CUBIC FEET =

TOTAL COST=Σ(QUANTITY X UNIT COST) =

45.0 LBS.

3.3 cu. ft.

\$1,057.64

* Added to upgrade clinical capability
** Added as an upgrade for an existing item

**Appendix E
AMMAL 0924 – Emergency Response Kit**

NSN	NOMENCLATURE	QTY	UI	UW	UC	US
6505001394460	DEXTRROSE INJECTION USP 50% 50ML CARTRIDGE 10 PER BOX	0.10	PG	4.40	0.34	\$18.45
6505001487177	DIPHENHYDRAMINE HYDROCHLORIDE INJ USP 50MG/ML 1ML SYRINGE	0.10	BX	0.25	0.03	\$9.23
6505001334449	EPINEPHRINE INJECTION USP AQUEOUS CARTRIDGE NEEDLE UNIT 1ML	0.20	PG	0.21	0.01	\$19.52
6505000797867	NALOXONE HYDROCHLORIDE INJECTION USP 0.4MG/ML 1ML AMPUL	0.20	BX	0.12	0.05	\$4.85
6505006873663	NITROGLYCERIN TABLETS USP 0.4MG 100 TABLETS PER BOTTLE	1.00	BT	0.11	0.00	\$4.34
6505001325181	*OXYGEN USP 99% CYLINDER TYPE D 95LG	1.00	EA	13.00	0.30	\$93.74
6510009268883	ADHESIVE TAPE SURGICAL POROUS WOVEN 2 INCHES BY 10 YARDS 6S	0.33	PG	1.28	0.06	\$8.14
6515012331920	*AIRWAY NASOPHARYNGEAL 6MM ID 8MM OD PLAS 10S	0.10	PG	0.25	0.07	\$38.43
6515013215211	*AIRWAY KIT PERCUTANEOUS EMER 10S	0.10	PG	0.20	0.05	\$156.06
6515011649637	AIRWAY PHARYNGEAL 4" AIRWAY/CUT AWAY FLANGE KINK RES 30FR	0.10	PG	1.00	0.01	\$32.08
6515006582232	**AIRWAY PHARYNGEAL 4" AIRWAY/CUT AWAY FLANGE 80MM 12S	0.25	PG	0.26	0.03	\$3.98
6530014523226	BACKPACK MEDICAL AD20IN H X 14IN W X 10IN D E.I.6530-01-452-2911	1.00	EA	5.00	12.00	\$274.50
6510000583047	BANDAGE GAUZE 6-PLY ROLLED WHITE STERILE 4YD X 4.5IN I.S. 100S	0.08	PG	1.15	0.03	\$102.51
6510002011755	BANDAGE MUSLIN COMPRESSED BROWN 37X37X52" TRIANGULAR	2.00	EA	0.13	0.01	\$2.16
6135008357211	BATTERY NONRECHARGE CARBON-ZINC 1.5 VOLTS 1.344IN DIA	0.25	PG	5.00	0.14	\$9.15
7210009356666	BLANKET CASUALTY PLASTIC FILM ALUM COATED 96X56INCHES GREEN	2.00	EA	0.16	0.01	\$7.04
6515013373681	CATHETER & NDL UNIT IV 18GAX1.25" W/NDL GUARD BEVELED TIP 200S	0.01	PG	1.00	0.40	\$388.43
6515013365874	CATHETER & NEEDLE UNIT IV 16GAX1.25" W/LUER-LOCK HUB STER 200S	0.01	PG	4.00	0.40	\$388.43
6510002017425	DRESSING FIRST AID FIELD CAMOUFLAGED 11.5-12"W 11.5-12"LG ABS	2.00	EA	0.50	0.04	\$5.67
6510002017430	DRESSING FIRST AID FIELD CAMOUFLAGED 7.75-8.25"LG 7.25-7.75"W	2.00	EA	0.29	0.02	\$3.94
6515013773836	EXTENSION SET IV ADMIN 30" LG W/ROLLER OR SLIDE-TYPE CLAMP 48S	0.04	PG	0.03	0.03	\$50.08
6230001631856	FLASHLIGHT ILLUMINATION 3 VOLT	1.00	EA	0.10	0.00	\$2.62
6515003343800	FORCEPS HEMO KELLY 5.25-5.75" LG SLIGHTLY CURVED JAW STR HDL	1.00	EA	0.15	0.01	\$13.30
6515003346800	FORCEPS HEMO KELLY 5.50" LG 1" LG STRAIGHT JAW BOX LOCK CRS	1.00	EA	0.15	0.01	\$14.87
6515011498842	GLOVES SURGEONS GEN SURG SZ 8 RBBR PREPOWDERED STERILE	0.04	PG	4.56	0.48	\$27.39
6515013448487	INJECTOR TUBE PLAS ACCOM 1ML & 2ML MEDICATION NEEDLE CART	1.00	EA	0.11	0.07	\$3.13
6515001179021	INTRAVENOUS INJ SET VENTED 15 DROPS PER ML 78" LG STER DISP 48S	0.04	PG	6.38	1.05	\$54.07
6515006165052	LARYNGOSCOPE MACINTOSH INFANT/CHILD/ADL 4 BLADES	1.00	EA	3.96	0.16	\$151.76
6515012761417	MASK ORONASAL UNIV SZ HEAD STRAP PREINFLATE CUSHION	1.00	EA	0.10	0.01	\$16.25
CAT#01DV2025	*OXYGEN ADMIN SYSTEM W/REGULATOR DEMAND VALVE SUCTION	1.00	EA	2.00	0.75	\$299.00
6510007863736	PAD ISOPROPYL ALCOHOL IMPREGCOTTON/RAYON1.5 X 2"100	0.06	PG	0.50	0.10	\$0.80
6515010617812	RESUSCITATOR HAND OPERATED INTERMITTENT POSITIVE PRESSURE	1.00	EA	0.92	0.17	\$85.89
6515009357138	SCISSORS BANDAGE 7.25" LG ANG TO HDL 1.50" CUT LG BLUNT PTS CRS	1.00	EA	0.19	0.01	\$4.41
6515003651820	SCISSORS GEN SURG 5.50" LG ONE BLUNT AND ONE SHARP BLADE PT	1.00	EA	0.13	0.01	\$17.22
6515010394884	SPHYGMOMANOMETER W/CLIP FOR CUFF	1.00	EA	1.25	0.10	\$19.23
6515012254681	**SPLINT UNIVERSAL 36X4.50" MALLEABLE ALUM RADIOLUCENT LTWT	0.17	PG	5.00	0.48	\$49.89

* Added to upgrade clinical capability

** Added as an upgrade for an existing item

Appendix E
AMMAL 0924 – Emergency Response Kit

NSN	NOMENCLATURE	QTY	UI	UW	UC	US
6510007822698	SPONGE SURG GAUZE ABS WHITE 4X4"8-PLY U/F INJURIES OR SURG	0.50	PG	0.83	0.07	\$6.01
6515013041027	STETHOSCOPE 20" LG ADULT CHILD INFANT SIZE BELLS LATEX RUBBER	1.00	EA	0.70	0.06	\$10.98
6515013948327	**STYLET TRACHEAL TUBE 7.5MM TO 10MM TRACHEAL TUBES DISP 10S	0.10	PG	2.10	0.02	\$44.62
6515014524435	SUPPORT CERVICAL LAERDAL DESIGN ADJUSTABLE ADULT COLLAR	1.00	EA	0.55	0.12	\$14.41
6515001491206	SYRINGE & NEEDLE HYPODERMIC DISPOSABLE 23GAGE 1IN NDL 3ML	0.04	PG	2.45	0.23	\$7.34
6515007540412	SYRINGE HYPO GP 10ML CAP LUER SLIP W/O NDL CONCENTRIC TIP 100S	0.04	PG	5.80	0.57	\$15.26
6515011467794	TOURNIQUET NONPNEUMATIC ADULT 14X1" BLD TAKING DSGN RUBBER	2.00	EA	0.01	0.00	\$3.87
6515001050720	TUBE TRACHEAL MURPHY E12 6.0MM ID 8.1MM OD 28CM LG PLAS DISP	0.20	PG	1.00	0.05	\$21.68
6515001050744	TUBE TRACHEAL MURPHY E12 W/CUFF 7.0MM ID 30CM LG W/15MM CONN	0.20	PG	1.00	0.05	\$46.79
6515001050759	TUBE TRACHEAL MURPHY E12 W/CUFF 8.0MM ID 10.7MM DIA 32CM LG 10S	0.20	PG	1.00	0.05	\$20.74

TOTAL WEIGHT = $\Sigma(\text{QUANTITY} \times \text{UNIT WEIGHT})$ IN POUNDS = 37.8 lbs.
TOTAL VOLUME = $\Sigma(\text{QUANTITY} \times \text{UNIT CUBE})$ IN CUBIC FEET = 14.3 cu. ft.
TOTAL COST = $\Sigma(\text{QUANTITY} \times \text{UNIT COST})$ = \$1,164.25

* Added to upgrade clinical capability
 ** Added as an upgrade for an existing item

Appendix F
AMMAL 0944 - Junior Emergency Response Kit

NSN	NOMENCLATURE	QTY	UI	UW	UC	US
6510009268883	ADHESIVE TAPE SURGICAL POROUS WOVEN 2 INCHES BY 10 YARDS 6S	0.33	PG	1.28	0.06	\$8.14
6515012331920	*AIRWAY NASOPHARYNGEAL 6MM ID 8MM OD PLAS 10S	0.10	PG	0.25	0.07	\$38.43
6515011649637	AIRWAY PHARYNGEAL 4" AIRWAY/CUT AWAY FLANGE KINK RES 30FR	0.03	PG	1.00	0.01	\$32.08
6515009582232	**AIRWAY PHARYNGEAL 4" AIRWAY/CUT AWAY FLANGE 80MM 12S	0.25	PG	0.26	0.03	\$3.98
6510000583047	BANDAGE GAUZE 6-PLY ROLLED WHITE STERILE 4YD X 4.5IN I.S. 100S	0.06	PG	1.15	0.03	\$102.51
6510002011755	BANDAGE MUSLIN COMPRESSED BROWN 37X37X52" TRIAN W/SFTY PINS	2.00	EA	0.13	0.01	\$2.16
6135008357211	BATTERY NONRECHARGEABLE CARBON-ZINC 1.5 VOLTS 1.344IN DIA.	0.25	PG	5.00	0.14	\$9.15
7210009356666	BLANKET CASUALTY PLASTIC FILM ALUM COATED 96X56INCHES GREEN	1.00	EA	0.16	0.01	\$7.04
6545004896320	CASE MEDICAL INSTRUMENT AND SUPPLY SET DUCK NYLON OLIVE	1.00	EA	1.25	0.13	\$59.31
6510002017425	DRESSING FIRST AID FIELD CAMOUFLAGED 11.5-12"W 11.5-12"LG ABS	2.00	EA	0.50	0.04	\$5.67
6510002017430	DRESSING FIRST AID FIELD CAMOUFLAGED 7.75-8.25"LG 7.25-7.75"W	2.00	EA	0.29	0.02	\$3.94
6230001631856	FLASHLIGHT ILLUMINATION POWER SOURCE 3 VOLTAGE	1.00	EA	0.10	0.00	\$2.62
6515003343800	FORCEPS HEMO KELLY 5.25-5.75" LG SLIGHTLY CURVED JAW STR HDL	1.00	EA	0.15	0.01	\$13.30
6515011498842	GLOVES SURGEONS GEN SURG SZ 8 RBR PREPOWDERED STERILE DISP	0.04	PG	4.56	0.48	\$27.39
6515012761417	MASK ORONASAL UNIV SZ C/O HEAD STRAP COUPLING&PREINFLATE	1.00	EA	0.10	0.01	\$16.25
6510007863736	**PAD ISOPROPYL ALCOHOL IMPREGCOTTON/RAYON1.5 X 2"100	0.06	PG	0.50	0.10	\$0.80
6515009357138	SCISSORS BANDAGE 7.25" LG ANG TO HDL 1.50" CUT LG BLUNT PTS CRS	1.00	EA	0.19	0.01	\$4.41
6515010394884	SPHYGMOMANOMETER ANEROID 300MM MAX CALIBRATION W/CLIP	1.00	EA	1.25	0.10	\$19.23
6515012254681	**SPLINT UNIVERSAL 36X4.50" MALLEABLE ALUM RADIOLUCENT LTWT	0.17	PG	5.00	0.48	\$49.89
6510007822698	SPONGE SURG GAUZE ABS WHITE 4X4"8-PLY U/F INJURIES, SURGERY200	0.50	PG	0.83	0.07	\$6.01
6515013041027	STETHOSCOPE 20" LG ADULT CHILD INFANT SIZE BELLS LATEX RUBBER	1.00	EA	0.70	0.06	\$10.98
6515014524435	SUPPORT CERVICAL LAERDAL DESIGN ADJUSTABLE ADULT COLLAR	1.00	EA	0.55	0.12	\$14.41
6515011467794	TOURNIQUET NONPNEUMATIC ADULT 14X1" BLD TAKING DSGN RUBBER	2.00	EA	0.01	0.00	\$3.87

9.7 lbs.

TOTAL WEIGHT = $\Sigma(\text{QUANTITY} \times \text{UNIT WEIGHT})$ IN POUNDS =
TOTAL VOLUME = $\Sigma(\text{QUANTITY} \times \text{UNIT CUBE})$ IN CUBIC FEET =
TOTAL COST = $\Sigma(\text{QUANTITY} \times \text{UNIT COST})$ =

0.80 cu. ft. \$208.38

* Added to upgrade clinical capability
** Added as an upgrade for an existing item

Appendix G
AMMAL 0927 - 1st Aid Box

NSN	NOMENCLATURE	QTY	UI	UW	UC	US
6510009268883	ADHESIVE TAPE SURG POROUS WOVEN 2"x10YD 6S	0.50	PG	1.28	0.06	\$8.14
6515011649637	AIRWAY PHARYNGEAL 4" AIRWAY/CUT AWAY FLANGE KINK RES 30FR	0.10	PG	1.00	0.01	\$32.08
6515009582232	**AIRWAY PHARYNGEAL 4" AIRWAY/CUT AWAY FLANGE 80MM 12S	0.09	PG	0.26	0.03	\$3.98
6510001055807	**BANDAGE ELASTIC RUBBER BROWN 3"X5yds 24S (Note: Coban™)	0.33	PG	6.94	0.13	\$29.76
6510002011755	BANDAGE MUSLIN COMPRESSED BROWN 37X37X52" TRIAN W/SFTY PINS	6.00	EA	0.13	0.01	\$2.16
6510002017425	DRESSING FIRST AID FIELD CAMO 12Wx11"LG ABS	3.00	EA	0.50	0.04	\$5.67
6510002017430	DRESSING FIRST AID FIELD CAMOUFLAGED 7.75-8.25"LG 7.25-7.75"W	3.00	EA	0.29	0.02	\$3.94
6515009357138	SCISSORS BANDAGE 7.25" LG ANG 1.50" CUT	3.00	EA	0.19	0.01	\$4.41
6515012254681	SPLINT UNIVERSAL .36X4.50" MALLEABLE ALUM RADIOLUCENT LTWT	0.25	PG	5.00	0.48	\$49.89

8.0 lbs.

0.45 cu. ft.

\$84.95

TOTAL WEIGHT = Σ(QUANTITY x UNIT WEIGHT) IN POUNDS =
TOTAL VOLUME = Σ(QUANTITY x UNIT CUBE) IN CUBIC FEET =
TOTAL COST = Σ(QUANTITY x UNIT COST) =

* Added to upgrade clinical capability
 ** Added as an upgrade for an existing item

**Appendix H
AMMAL 0925 - Antidote Locker**

NSN	NOMENCLATURE	QTY	UI	UW	UC	U\$
0510LP0969025	HANDBOOK POISONING AND ANTIDOTES P-5095	1.00	EA	0.01	0.01	0.50
6505001352881	CHARCOAL ACTIVATED USP POWDER 15GM	8.00	BT	0.17	0.02	4.21
6505001415000	SODIUM BICARBONATE USP 1 LB (453.6 GM)	1.00	CO	1.42	0.05	2.15
6505004807216	ALUMINUM HYDROXIDE GEL USP 64MG PER ML 12 OUNCES OR 355 ML	1.00	BT	1.04	0.03	5.64
6505009269197	IPECAC SYRUP USP 7% 30ML	5.00	BT	0.30	0.01	0.93
6505014409134	MAGNESIUM SULFATE USP CRYSTAL FORM 16 OZ CONTAINER	1.00	CO	0.55	0.12	4.38
6508009786057	SKIN CLEANSER MEDICATED 1PT BOTTLE	1.00	BT	0.48	0.03	8.95
6515003245500	DEPRESSOR TONGUE 6X0.75X0.062" STRAIGHT 100S	0.10	PG	0.69	0.04	1.10
6515011649637	AIRWAY PHARYNGEAL 4" AIRWAY/CUT AWAY FLANGE KINK RES 30FR	0.10	PG	1.00	0.01	32.08
6515009582232	**AIRWAY PHARYNGEAL 4" AIRWAY/CUT AWAY FLANGE 80MM 12S	0.09	PG	0.26	0.03	\$3.98
7240001387984	MEASURE, LIQUID	1.00	EA	0.10	0.01	1.61
8950009035372	MEAT TENDERIZER, UNS	1.00	BT	0.01	0.00	1.25
8950010793978	VINEGAR	1.00	BT	0.50	0.05	0.66

TOTAL WEIGHT = $\Sigma(\text{QUANTITY} \times \text{UNIT WEIGHT})$ IN POUNDS = 7.2 lbs.
TOTAL VOLUME = $\Sigma(\text{QUANTITY} \times \text{UNIT CUBE})$ IN CUBIC FEET = 0.48 cu. ft.
TOTAL COST = $\Sigma(\text{QUANTITY} \times \text{UNIT COST})$ = \$67.15

* Added to upgrade clinical capability
** Added as an upgrade for an existing item

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13. ABSTRACT: A medical knowledge base consisting of 336 shipboard patient types, treatment protocols, and the medical materiel required to administer care, defined in the protocols, was developed. The knowledge base, developed with shipboard medical Subject Matter Experts (SMEs) was used to establish clinical requirements for each medical item in the surface fleet's trauma Authorized Minimal Medical Allowance Lists (AMMALS). The AMMALS investigated represent the critical care and trauma materiel used during wartime or emergency events and include the battle dressing station, portable medical locker, emergency response kits, antidote lockers, and first-aid boxes. The results showed overall reductions in the number of items required, weight, cube, and cost. The reductions were achieved along with increases in clinical capability not currently available in the trauma AMMALS. A second examination of the data showed that item changes occurred primarily because of (1) the failure to identify a clinical requirement or identification of clinical requirements not currently being met, (2) the identification of outmoded technology or the introduction of technologically superior materiel, or (3) the removal of items found to be redundant with other pieces of gear. The results demonstrate the value of establishing clinical requirements for the medical materiel used by the Fleet's emergency medicine AMMALS. This process led to the removal of items contributing little or no benefit to the mission of the AMMALS thereby freeing space for items that can increase the Fleet's capacity to treat the seriously injured. Furthermore, the efficiency of the medical department is enhanced because there is less materiel to maintain, inventory, rotate, or discard upon expiration. Because fewer items are required, the cost of stocking a ship with its allotment of medical gear is also reduced.			
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