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CASUALTY CARE

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CASUALTY CARE

Contents

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Preface

This Army techniques publication (ATP) is a consolidation of currently existing publications which address the treatment aspects of the Army Health System (AHS). The publications being consolidated into this ATP publication include: Field Manual (FM) 4-02.10, 3 January 2005; FM 4-02.19, 31 July 2009; FM 4-02.25, 28 March 2003; FM 4-02.51, 6 July 2006; and FM 4-02.56, 6 July 2006. This publication is intended for use by commanders and their staffs, command surgeons, AHS planners, and Army Medical Department personnel and units.

This publication addresses the casualty care aspects of the health service support mission under the sustainment warfighting function. It describes the various organizational designs for the units providing this support and doctrinal guidance on the employment of these organizations and their functional capabilities.

The staffing and organizational structures and positions presented in this manual are established in tables of organization and equipment (TOEs). These tables were current at the time this manual was published. The organization of these units is subject to change in order to comply with manpower requirements criteria outlined in Army Regulation (AR) 71-32. These organizations are also subject to change at the unit level in order to meet wartime requirements and changes are reflected in the units' modified table of organization and equipment (MTOE).

This publication implements or is in consonance with the following North Atlantic Treaty Organization (NATO) International Standardization Agreements (STANAGs) and American, British, Canadian, Australian, and New Zealand (ABCA) standards and publication:

Title	NATO STANAG	ABCA STANDARD	ABCA PUBLICATION
Identification of Medical Materiel to Meet Urgent Needs		248	
Coalition Health Interoperability Handbook			256
Levels of Medical Support		423	
Blood Supply in the Area of Operations		815	
Formats for Orders and Designation of Timings, Locations and Boundaries	2014		
Principles and Procedures for Tracing and Tracking Personnel in an ABCA Coalition Force	2026		
Emergency Alarms of Hazard or Attack (CBRN and Air Attack Only)	2047		
Identification of Medical Material for Field Medical Installations	2060		
Procedures for Disposition of Allied Patients by Medical Installations	2061		
Emergency War Surgery	2068		
Requirement for Training in First-Aid, Emergency Care in Combat Situations and Basic Hygiene for all Military Personnel	2122		
Multilingual Phrase Book for Use by the NATO Medical Services—AMedP-5(B)	2131		
Documentation Relative to Medical Evacuation, Treatment and Cause of Death of Patients	2132	470	

Title	NATO STANAG	ABCA STANDARD	ABCA PUBLICATION
Minimum Standards of Water Potability During Field Operations—AMedP-18	2136		
Basic Military Hospital (Clinical) Records	2348		
Morphia Dosage and Casualty Markings	2350		
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The proponent of this publication is the United States (U.S.) Army Medical Department Center and School (USAMEDDC&S). Send comments and recommendations in a letter format directly to the **Commander, USAMEDDC&S, ATTN: MCCS-FC-DL, 2377 Greeley Road, Suite D, Fort Sam Houston, Texas 78234-7731** or at e-mail address: usarmy.jbsa.medcom-ameddcs.mbx.ameddcs-medical-doctrine@mail.mil. All recommended changes should be keyed to the specific page, paragraph, and line number. A rationale should be provided for each recommended change to aid in the evaluation of that comment.

Unless this publication states otherwise, masculine nouns and pronouns do not refer exclusively to men.

The use of trade names or trademarks in this publication is for illustrative purposes only and does not imply endorsement by the Department of Defense (DOD).

This publication applies to the Active Army, the Army National Guard/Army National Guard of the U.S., and the U.S. Army Reserve, unless otherwise stated.

Introduction

The AHS is comprised of a system of interrelated and interdependent systems synchronized to provide a seamless continuum of care from the point of injury, wounding, or illness in a deployed area of operations (AO), through successive increments of greater capability and complexity to definitive, convalescent, and rehabilitative care in the continental United States (CONUS)-support base. Historically, the systems have been referred to as medical functions and include: medical mission command; medical treatment (area and organic support); hospitalization; dental services; preventive medicine services; veterinary services; combat and operational stress control (COSC); medical evacuation (to include medical regulating and en route medical care); medical logistics (to include blood management); and medical laboratory services.

With the publication of FM 3-0 in February 2008, the missions of the AHS were placed under two different warfighting functions, where previously they had only been included in the combat service support battlefield operating system. The two warfighting functions which now contain AHS missions are the sustainment warfighting function and the protection warfighting function. The transition from the battlefield operating systems to the warfighting functions required a new approach in describing the capabilities of the Army Medical Department.

Under the sustainment warfighting function, the mission to provide health service support is comprised of three major components—casualty care, medical evacuation, and medical logistics. Casualty care encompasses medical treatment (organic and area support), hospitalization, the treatment aspects of dental services and combat and operational stress (behavioral health and neuropsychiatric care), and clinical laboratory services. It also includes the treatment of chemical, biological, radiological, and nuclear (CBRN)-contaminated patients.

Under the protection warfighting function, the mission to provide force health protection is comprised of preventive medicine, veterinary services, the preventive aspects of dental services (preventive dentistry) and combat and operational stress control, and the area medical laboratory.

The essential care in theater concept enabled the Army Medical Department to decrease the deployed medical footprint in the AO by shifting the definitive, convalescent, and rehabilitative phases of patient treatment to the CONUS-support base and retaining only those medical care resources required to provide essential care to decrease morbidity, mortality, and long-term disability, to stabilize patients for further evacuation, and/or to return to duty those patients who could recover within the stated theater evacuation policy.

In the aftermath of the Battle of the Black Sea conducted in Mogadishu, Somalia in October 1993, a study of first responder care was undertaken by the U.S. Special Operations Command. This study revolutionized the military's approach to providing Roles 1 and 2 medical care while under hostile fire. The resulting tactical combat casualty care guidelines and procedures are now the standard of care used by all Services in a deployed joint operational area.

Additional initiatives, such as the Joint Theater Trauma Registry, electronic medical records, and new documentation for recording point of injury care, improved combat tourniquets, and hemorrhage control bandages/products have evolved from current operations to increase Soldier survivability and to ensure all medical encounters and exposures to operational hazards are documented.

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Chapter 1
Operational Considerations

The employment of medical units and hospitals requires knowledge not only of military field craft but also what impact mission, enemy, terrain and weather, troops and support available, time available, and civil considerations have on patient care operations. This chapter discusses topics which are generally applicable to all types of field medical units, regardless of organizational structure.

SECTION I — GUIDE FOR GENEVA CONVENTIONS COMPLIANCE AND ELIGIBILITY FOR CARE DETERMINATION

GENEVA CONVENTIONS

1-1. As the U.S. is a signatory to the Geneva Conventions, all medical personnel should thoroughly understand the provisions that apply to AHS support activities. Violations of these Conventions can result in the loss of the protection afforded by them. Medical personnel should inform the tactical commander of the consequences of violating the provisions of these Conventions. Refer to Army Tactics, Techniques, and Procedures (ATTP) 4-02 for an in-depth discussion on the Geneva Conventions.

VIOLATION

1-2. The following acts of medical personnel or medical treatment facilities (MTFs) are inconsistent with the Geneva Conventions and are considered violations:

- Using medical personnel to man or help man the perimeter of nonmedical facilities.
- Using medical personnel to man any offensive-type weapon or weapons systems.
- Ordering medical personnel to engage enemy forces other than in self-defense or in the defense of patients in their care or MTFs.
- Mounting a crew-served weapon on a medical vehicle.
- Placing mines in and around medical units or facilities regardless of their type of detonation device.
- Placing booby traps in or around medical units or facilities.
- Issuing hand grenades, light antitank weapons, grenade launchers, or any weapons other than rifles, pistols, or squad automatic weapons to a medical unit or its personnel.
- Using the site of a medical unit as an observation post or a dump or storage site for arms, ammunition, or fuel for combat.

CONSEQUENCES

1-3. Possible consequences of violations described above may include—

- Loss of protected status for the medical unit and medical personnel.
- Medical facilities attacked and destroyed by the enemy.
- Medical personnel considered prisoners of war rather than retained personnel when captured.

OTHER VIOLATIONS

1-4. Other examples of violations of the Geneva Conventions include—

- Making medical treatment decisions for the wounded and sick on any basis other than medical priority/urgency/severity of wounds.
- Allowing the interrogation of enemy wounded or sick even though medically contraindicated.
- Allowing anyone to kill, torture, mistreat, or in any way harm a wounded or sick enemy soldier.
- Marking nonmedical unit facilities or vehicles with the distinctive Geneva emblem (red cross, red crescent or red crystal on a white background) or any other unlawful use of the Geneva emblem.
- Using medical vehicles marked with distinctive Geneva emblem (red cross, red crescent or red crystal on a white background) for transporting nonmedical troops and equipment/supplies or using full-tracked armored medical vehicles as a tactical operations center.

POSSIBLE CONSEQUENCES

1-5. Possible consequences of violations described in paragraphs 1-4 include—

- Criminal prosecution for war crimes.
- Medical personnel being considered prisoners of war rather than retained personnel when captured.
- Decreased AHS capabilities.

Note. The use of smoke and obscurants by medical personnel is not a violation of the Geneva Conventions. Refer to Army medical doctrine for additional information on the use of smoke and obscurants.

ELIGIBILITY FOR CARE DETERMINATION

1-6. During interagency and multinational operations, one of the most pressing questions is who is eligible for care in a U.S. Army-established MTF and the extent of care authorized. Numerous categories of personnel seek care in U.S. facilities that are located in austere areas where the host-nation civilian medical infrastructure is not sufficient to provide adequate care. A determination of eligibility and whether reimbursement for services is required is made at the highest level possible and in conjunction with the supporting staff judge advocate. Additionally, Department of State and other military staff sections (such as the assistant chief of staff, plans) may also need to be involved in the determination process. Each operation is unique and the authorization for care is based on the appropriate U.S. and international law, Department of Defense directives (DODDs), Department of Defense instructions (DODIs), Army regulations, doctrine, and standard operating procedures. Other factors impacting on the determination of eligibility are command guidance, practical humanitarian and medical ethics considerations, availability of U.S. medical assets (in relationship to the threat faced by the force), and the potential training opportunities for medical forces.

1-7. Medical commanders should ensure that the eligibility for care matrix is widely disseminated throughout the command and that all medical personnel are aware of the process and how to obtain additional guidance, if required. For an in-depth discussion of the eligibility for care and a sample matrix refer to ATTP 4-02.

SECTION II — EMPLOYMENT OF FIELD MEDICAL UNITS AND HOSPITALS

DISPLACEMENT

1-8. The displacement and reestablishment of medical units is mission, enemy, terrain and weather, troops and support available, time available, and civil considerations-dependent and normally results from changes in the tactical situation. Unit displacements are normally conducted as a result of orders issued by the higher headquarters. Frequently, the time to respond to orders is short; therefore, the medical commander must disseminate his guidance to his staff in the most expedient method. Upon receiving the commander's guidance, the staff conducts the mission analysis, incorporating changes based on new

information or situation. The medical unit saves time by rehearsing moves, using knowledge from past experience, and maintaining a detailed tactical standard operating procedure.

1-9. The unit's operations section develops the operation order according to the higher headquarters' plan and the tactical standard operating procedure. The medical commander reviews and approves the operation order. The medical commander ensures that the move is coordinated with higher headquarters and all supported elements. All supported elements must be aware of when medical operations at the current location will be curtailed and the date and time of opening medical operations at the new site. Medical unit displacements necessitate the transfer of patients and medical operations to other MTFs. To minimize disruption of treatment operations, the medical unit should move in echelons. Displacement by echelons is contingent upon the higher commander's intent, the tactical situation, and the availability of support requirements.

WARNING ORDER

1-10. A move is usually initiated by a warning order issued by the higher headquarters. The warning order serves notice of a contemplated action or order that is to follow. Warning orders are brief oral or written orders. The amount of detail included in a warning order depends on the time available, the means of communications, and the information requested by the medical commander.

1-11. Upon receiving the warning order, the medical commander analyzes the mission and provides planning guidance to his staff. Using the higher headquarters' service support annex, status reports, and other appropriate documents, the staff formulates their running estimate for the commander's approval. With the acceptance and approval of the running estimates, the commander provides his decision and concept of operations. Concurrently with the running estimate sequence, other unit personnel conduct preliminary equipment checks and equipment loading procedures. Based on the commander's decision the staff coordinates with the higher headquarters to affect the transfer of patients to other MTFs.

1-12. In preparation for displacement, the commander should organize the unit into manageable echelons, preserving unit integrity as much as possible. Preparation for displacement requires—

- Identifying external support requirements (for example, a hospital may require additional materiel handling equipment).
- Phasing down and transferring MTF operations.
- Patient evacuation/movement/transfer.
- Performing map, ground, and/or air reconnaissance of the routes and selecting the new site when possible.
- Selecting routes.
- Designating start points and release points.
- Reconnoitering the route to the starting point.
- Providing for fuel, security, maintenance, supply, and equipment evacuation.
- Determining the march order (echelons), rate of march, maximum speed of vehicles, catch-up speed, and distance between vehicles.
- Establishing checkpoints and halts.
- Establishing communications security procedures.
- Establishing mission-oriented protective posture level.
- Dispatching reconnaissance and advanced parties.
- Controlling traffic.
- Including environmental considerations, policies, and requirements.
- Issuing orders.

OPERATION ORDER

1-13. The operations officer has staff responsibility for formulating, publishing, and obtaining the commander's approval of and distributing the operation order. The operation order provides unit staff and personnel the information needed to carry out an operation. Preparation of this order normally follows the

completion of area reconnaissance and an estimate of the situation. When time is available and the existing tactical situation conditions prevent detailed planning or area reconnaissance, the higher headquarters prepares an initial march plan and issues fragmentary orders to modify these plans as needed. If conditions and time permit, information in the operation order includes—

- Destination and routes.
- Rate of march, maximum speeds, and order of march.
- Start points and times.
- Scheduled halts, vehicle distances, and release points.
- Required communications.

1-14. Each unit section reports its supply, vehicle, equipment, workload, and maintenance status to the operations officer. This information is used in coordination with higher headquarters to finalize the convoy organization, compute additional transportation and external support requirements, and perform march computations. Refer to Army doctrine for additional information on march rates.

AREA RECONNAISSANCE

1-15. The higher headquarters normally prescribes the reconnaissance route. The operations section uses a map reconnaissance in such cases to confirm checkpoints, identify problem areas, and begin planning positions of the unit in the new area. This effort includes the gathering of data already generated, if any, on the route and the new area that includes specific environmental health risks, environmental considerations, and related information. If the route is not prescribed and the unit is not included as part of a reconnaissance party with other units, the operations section briefs the reconnaissance team on the displacement plan and provides the team with a strip map and the designated mission-oriented protective posture-level and notifies higher headquarters of the route selected. The composition of the reconnaissance team is directed by the unit commander.

1-16. The reconnaissance party wears the appropriate protective gear based on the threat analysis and monitors all radiological and chemical detection devices. It performs duties to—

- Verify map information.
- Note capabilities of road networks.
- List significant terrain features and potential problem areas.
- Identify and mark contaminated areas and minefields.
- Compute travel times and distances.
- Perform route and ground reconnaissance to include site selection.

ADVANCED PARTY

1-17. The advanced party moves before the main body and is dispatched as directed by the commander. Its composition is recommended by the medical operations officer and approved by the commander. It prepares the new site for arrival of the main body. The advanced party performs duties to—

- Conduct a security sweep of the new site to ensure the area is free of enemy activity and monitor radiation exposure measurements within the area of the new site. This is normally done by security support forces.
- Position chemical alarms.
- Establish communications with higher headquarters and old location.
- Designate boundaries of hospital elements, based on unit defense plans and consistent with types of weapons and personnel availability.
- Increase security by manning key points along the perimeter.
- Establish a command post.
- Ensure personnel follow dispersion and other measures.
- Position personnel to guide main body from the release point to designated locations.

MAIN BODY

1-18. The main body moves as directed in the operation order. The last echelon normally closes out any remaining operations ensuring the old site is clear of any intelligence evidence valuable to the enemy and then moves to the new site. This echelon includes maintenance elements to deal with disabled vehicles from the rest of the convoy. It also picks up guides and markers along the route. As the main body arrives at the new site, it is met by the advanced party and guided to designated positions. Erection of the MTF and the establishment of treatment operations follow the priorities set by the commander.

SITE SELECTION

1-19. Site selection is an important factor impacting on the accomplishment of the medical unit's mission. Improper site selection can result in inefficiency and possible danger to unit personnel and patients. For example, if there is insufficient space available for ambulances to turnaround, congestion and traffic jams around the MTF can result; or, if the area selected does not have proper drainage, heavy rains may cause flooding in the unit and treatment areas. The MTF should not be placed near hazardous materials (such as petroleum, oils, lubricants, and ammunition) or storage areas and motor pools. The selected site is cleared of mines, booby traps, and CBRN hazards. The selected site is not located near potential areas of filth such as a garbage dump, landfill, or other waste disposal site.

COMMANDER'S PLAN AND MISSION

1-20. The specifics of the operation plan, the manner in which it will be executed, and the unit's assigned mission can affect the selection of a site. The requirements for an area that is only to be used for a short period of time can differ significantly from an area which is expected to be used on an extended basis. For example, if the medical unit's mission requires that it relocate several times a day, complete treatment and holding areas will not be established; only essential services, shelters, and equipment will be used. On the other hand, if it is anticipated that the unit will be located at one site for an extended period of time, buildings or preestablished shelters, if available, may be used.

ROUTES OF EVACUATION AND ACCESSIBILITY

1-21. The air ambulance is the primary and preferred means of evacuating URGENT, URGENT-SURG, and PRIORITY precedence patients. The ground ambulance is the primary means of medical evacuation for ROUTINE and CONVENIENCE precedence patients. The MTF must be situated so that it is accessible from a number of different directions and/or areas. It should be situated near and be accessible to main road networks and air corridors, but not placed near lucrative targets of opportunity. The site should not be so secluded that incoming ambulances have difficulty locating the MTF. Refer to Army medical doctrine for additional information on medical evacuation.

EXPECTED AREA OF PATIENT DENSITY

1-22. To ensure the timely delivery of AHS support, the Role 2 MTF must be located in the general vicinity proximate to the supported units. Without proximity to the areas of patient density, the evacuation routes will be unnecessarily long, resulting in delays in both treatment and evacuation. The longer the distance that must be traveled, the longer it takes for the patient to reach the next role of care. Further, this time delay reduces the number of ambulances available for medical evacuation support.

HARDSTAND, DRAINAGE, OBSTACLES, AND SPACE

1-23. The site should provide good drainage during inclement weather. Care must be taken to ensure that the site selected is not in or near a dry river or stream bed, has drainage that slopes away from the MTF location and not through the operational area, and that there are no areas where water can pool.

1-24. The ground, in the selected area, should be of a hard composition that is not likely to become marshy or excessively muddy during inclement weather or temperature changes. This is particularly true in extreme cold-weather operations where the ground is frozen at night and begins to thaw and become

marshy during daylight hours. Further, the area must be able to withstand a heavy traffic flow of incoming and departing ambulances in various types of weather.

1-25. The area selected should be free of major obstacles that will adversely impact on the unit layout (such as disrupting the traffic pattern); cause difficulties in erecting shelters (overly rocky soil); or require extensive preparation of the area before the MTF can be established. Engineer site preparation is required for the establishment of hospitals.

1-26. The space to establish the treatment and administrative areas of the unit is dependent upon the mission, expected duration of the operation, and whether CBRN operations are anticipated. The site should provide adequate space for establishment of all unit elements including possible augmentation. It must be adequate in size to accommodate dispersion of unit assets according to the tactical standard operating procedure. The land space required for a medical company headquarters and headquarters detachment (HHD) and treatment facility is approximately 6 acres. The medical companies require approximately 4 acres exclusive of the helipad and motor pool parking requirements.

COMMUNICATIONS

1-27. While considering all factors of site selection, remember that terrain can impede the communications systems.

LIKELY ENEMY TARGETS

1-28. The site must not be too closely located to likely enemy targets including—

- Ammunition storage facilities.
- Petroleum, oils, and lubricants points.
- Motor pools.
- Main supply routes (the facility should be located in the vicinity of the main supply route for accessibility but not directly on it).
- Bridges.
- River crossing points.
- Strategic towns and cities.
- Industrial complexes and factories.

COVER AND CONCEALMENT

1-29. The area should provide maximum cover and concealment without hampering mission accomplishment or communications capability. Overhead cover is desirable for protection from biological and chemical warfare agent contamination in the event of an attack.

LANDING SITES

1-30. The site selected must have sufficient space available to serve as a landing site for incoming and outgoing air ambulances. Sufficient space must be allocated for establishing a landing site for contaminated aircraft downwind of the unit and treatment areas. Refer to Army medical doctrine for additional information on medical evacuation.

PERIMETER SECURITY

1-31. The site selected should be easily defendable and maximize the use of available terrain features and defilade for cover and concealment. The extent of perimeter security requirements is dependent upon whether the unit is included in a base cluster or is solely responsible for its own security. Refer to ATTP 4-02 for additional information on perimeter security and Geneva Conventions.

FLOW OF TRAFFIC (PATIENTS AND VEHICLES)

1-32. In establishing the traffic patterns within the unit area, consider the following:

- The selected site must permit the establishment of the treatment and administrative areas in such a manner as to maximize the smooth flow of patients through the triage, diagnostic, treatment, and holding areas. Using overlapping internal traffic patterns should be minimized.
- The external traffic pattern must afford a smooth flow of vehicle traffic through the unit area. There must be sufficient space allocated for ambulance turnaround once the patient has been delivered to the triage area. Intersections accommodating cross traffic should be avoided as they present the potential for traffic jams and accidents.
- A route from the landing site to the triage area must be established which minimizes the distance the patient must be carried and which affords easy access to the treatment area.
- Traffic patterns of the other units in the base cluster must be considered when determining internal routes.

EQUIPMENT

1-33. Certain pieces of equipment require strategic placement within the company area. In selecting the site, the placement of this type of equipment must be considered. For example, trailer-mounted, 10-kilowatt (kw) generators must be placed in such a manner as to enhance their safe operation and to reduce their heat signature and noise level, yet be close enough to unit and treatment areas that the limited amount of cable can reach. It is preferable to maximize the use of natural terrain features within the site to provide a portion of the needed shielding rather than having to rely solely on the use of sandbags.

DECONTAMINATION AREA

1-34. The site should be large enough to provide an area for patient decontamination. The specific site selected to establish the decontamination station must be downwind of the unit and treatment areas. Refer to Army medical doctrine for additional information for establishing a patient decontamination.

GENEVA CONVENTIONS ADHERENCE

1-35. The Geneva Conventions afford the medical unit a certain degree of protection from attack. The extent to which the combatants and irregular forces on the battlefield are adhering to the provisions of the Geneva Conventions has a bearing on site selection in that it may dictate the degree of required security for the unit.

SHELTERING THE MEDICAL/DENTAL TREATMENT FACILITY

1-36. When providing medical/dental care in a field environment the MTF should be established so that the patients and staff are sheltered from the elements. It is also desirable to have some degree of environmental control.

EXPEDIENT SHELTERS

1-37. Expedient shelters are generally more convenient and easier to establish and use when a unit is conducting a movement and must provide emergency medical/dental care. Expedient shelters may be as simple as a tarp being erected to shield the patient and medical/dental staff from the sun or rain. In situations where weather and terrain permit, a shaded area adjacent to the route of march will suffice. It may be as simple as setting up on the tailgate of a vehicle which may be adequate for the immediate situation.

TENTS

1-38. All field medical/dental units are equipped with tents. The types of tentage available to a unit are based on common tables of allowance and the unit's MTOE.

Note. When a unit replaces existing tents, selection criteria for new tents must include compatibility with the unit's existing heating, cooling, and electrical requirements and capabilities.

1-39. Tents provide medical/dental personnel with a shelter system that is quick to setup and strike. Their portability and convenience are especially useful for forward deployed medical/dental treatment teams. Tents are easy to camouflage and conceal and allow flexibility in site selection.

SEMIPERMANENT BUILDINGS

1-40. Semipermanent buildings are generally constructed and used in base clusters or forward operating bases particularly in long-term operations predominated by stability tasks. Semipermanent buildings offer a number of features that make them very desirable. The structures can be built to specific dimensions which are required to establish and operate a treatment facility. Shelters for a hospital complex are often a mixture of shelter types. The two most prevalent shelter systems are the International Organization for Standardization (ISO) shelter and the tent, expandable, modular, personnel (TEMPER) shelter. The positioning of the ISO shelter requires materiel handling equipment. Additionally, engineer support is required to prepare the site prior to establishing a hospital facility.

BUILDINGS OF OPPORTUNITY

1-41. Buildings of opportunity present a number of distinct advantages and should be used whenever possible. These may include electrical lighting, air conditioning and central heat, telephones, running water, and toilets. Prior to establishing a treatment facility in an existing structure, the building must first be inspected and approved for occupancy by the supporting engineers. The building's existing layout may pose a significant challenge to medical/dental personnel when trying to establish an efficient layout.

This paragraph implements NATO STANAG 2931.

CAMOUFLAGE OF MEDICAL UNITS

1-42. If the failure to camouflage endangers or compromises tactical operations, the camouflage of the MTF may be ordered by a NATO commander of at least brigade-level or equivalent. Dispersion of tents and equipment is accomplished to the maximum extent possible. A controlled entry into the medical unit's area is established. North Atlantic Treaty Organization STANAG 2931 provides for camouflage of the Geneva emblem and red crescent on medical facilities where the lack of camouflage might compromise tactical operations. The STANAG defines medical facilities as medical units, medical vehicles, and medical aircraft on the ground. Camouflage of the red cross means covering it up or taking it down.

Note. The black cross on an olive background is not a recognized emblem of the Geneva Conventions.

1-43. It is not envisioned that hospital facilities will be camouflaged. For an in-depth discussion of the Geneva Conventions refer to ATTP 4-02.

SECTION III — HEALTH SERVICE SUPPORT IN SPECIFIC OPERATIONAL ENVIRONMENTS

CHEMICAL, BIOLOGICAL, RADIOLOGICAL, AND NUCLEAR ENVIRONMENT

1-44. Health service support operations conducted in a CBRN environment are described in detail in FM 4-02.7. Medical units must be prepared to establish a patient decontamination station in proximity to

the MTF. Medical units are not staffed to conduct patient decontamination operations and require augmentation from the supported units. The treatment of contaminated patients, to include treatment protocols are defined in ATP 4-02.84, FM 4-02.7, FM 4-02.283, FM 4-02.285 and other Army medical doctrine.

DETAINEE MEDICAL OPERATIONS

1-45. All MTFs may be required to provide medical care to a detainee or a detainee population. For information on the conduct of detainee medical operations, refer to ATP 4-02.46.

MASS CASUALTY OPERATIONS

1-46. Procedures for mass casualty operations should be contained in the tactical standard operating procedures of each unit. Tactical standard operating procedures for mass casualty operations are coordinated through the principal staff, approved by the command, coordinated with higher headquarters subordinate, adjacent, and supported commands. If mass casualty operations are viewed as part of the area damage control missions, then the medical requirements will be integrated into the overall plan. Refer to paragraphs 5-14 through 5-16 for a discussion of the dental officer's alternate wartime role during mass casualty operations. Refer to Army medical doctrine for additional information on the conduct of mass casualty operations.

SECTION IV — TACTICAL COMBAT CASUALTY CARE AND THE JOINT THEATER TRAUMA REGISTRY

TACTICAL COMBAT CASUALTY CARE

1-47. First responder capability can be usefully divided into the three phases called tactical combat casualty care. Tactical combat casualty care occurs during a combat mission and is the military counterpart to prehospital emergency medical treatment. Prehospital emergency medical treatment in the military is most commonly provided by enlisted personnel and includes: self- and buddy aid (first aid), combat lifesaver (enhanced first aid), and enlisted combat medics in the Army, corpsmen in the U.S. Navy, U.S. Marine Corps, and U.S. Coast Guard, and both medics and pararescuemen in the U.S. Air Force. Tactical combat casualty care focuses on the most likely threats, injuries, and conditions encountered in combat and on a strictly limited range of interventions directed at the most serious of these threats and conditions.

CARE UNDER FIRE PHASE

1-48. In the care under fire phase, combat medical personnel and their units are under effective hostile fire and are very limited in the care they can provide. In essence, only those lifesaving interventions that must be performed immediately are undertaken during this phase.

TACTICAL FIELD CARE PHASE

1-49. During the tactical field care phase, medical personnel and their patients are no longer under effective hostile fire and can provide more extensive patient care. In this phase, interventions directed at other life-threatening conditions, as well as resuscitation and other measures to increase the comfort of the patient may be performed. Physicians and physician assistants at battalion aid stations also provide advanced trauma management.

TACTICAL EVACUATION PHASE

1-50. In the tactical evacuation phase, casualties are being transported to an MTF by an aircraft or vehicle. To enhance the patient's prognosis and survivability, the transportation platform can be augmented with medical personnel or combat lifesavers to maintain the interventions already performed. Monitoring the patient's medical condition during transport provides the opportunity to respond to changes in the patient's

medical condition. When possible, dedicated, designed, staffed and equipped medical platforms should be used to evacuate patients.

Note. As mentioned in the introduction, the tactical combat casualty care initiative originated with U.S. Special Operations Command. Special operations forces do not have a dedicated, designed, and equipped medical evacuation capability. Therefore, they use nonmedical platforms augmented with medical personnel to perform the evacuation function. The conventional force doctrinal categories of medical evacuation and casualty evacuation as defined in Army medical doctrine are not changed. However, during this phase of tactical combat casualty care both types of evacuation occur depending upon the availability of assets and the time window available to execute the evacuation process. Time is of the essence to remove the casualty as quickly as possible to where further treatment can be provided.

JOINT TRAUMA SYSTEM

1-51. The Joint Trauma System is an organized approach to providing improved trauma care across the continuum of care to trauma patients—battle injury and nonbattle injury. The Joint Trauma System is dedicated to the reduction of morbidity and mortality of combat casualties and is engaged in a systematic fashion to determine the acute and long-term outcomes of casualties, the quality of their care, improvements in prevention and treatment, and logistical considerations. The Joint Trauma System addresses all components identified with optimal care of a patient from prevention through acute care, rehabilitation, and return to duty.

1-52. The Joint Theater Trauma Registry is part of the Defense Health Systems Information Management System and supports the capture of theater trauma care information across the continuum of trauma care, from the deployed AO to garrison-based MTFs. Trauma information collected and reported by the Joint Theater Trauma Registry includes trauma care, and outcomes for military and civilian casualties. This information combined with Armed Forces Medical Examiner data stored in a central repository is provided to the Department of Defense for use in the combat and materiel development processes to enhance medical care for future operations.

Chapter 2

Medical Treatment (Organic and Area Support)

The medical treatment (organic and area support) function encompasses the medical care provided at Roles 1 and 2. It may be provided by organic medical personnel in brigade combat teams or an area support basis in echelons above brigade. At echelons above brigade this support is normally provided by the medical company (area support), however when Role 1 and Role 2 medical assets are not available, it may also be provided by a combat support hospital. This chapter will focus on the medical company (area support). Refer to Army medical doctrine for additional information on health service support in a brigade combat team.

SECTION I — MODULAR MEDICAL SUPPORT SYSTEM

2-1. The AHS (Roles 1 and 2) is provided by the Modular Medical Support System that standardizes all medical subunits within brigades and echelons above brigade. This modular system was derived by recognizing that some common medical functions performed at Roles 1 and 2 were the same throughout the different formations. The modular design enables the AHS resource managers to rapidly tailor, augment, reinforce, or reconstitute the battlefield in areas of most critical need. This system is designed to acquire, receive, and sort casualties. It provides tactical combat casualty care/emergency medical treatment, advanced trauma management; and area medical support for personnel in brigades and at echelons above brigade. The Modular Medical Support System is built around six modules. These modules are oriented to casualty assessment/collection, evacuation, treatment, and resuscitative surgery. They provide greater flexibility, mobility, and patient care capabilities than were previously available.

COMBAT MEDIC

2-2. The combat medic module consists of one combat medic (trauma specialist) and his prescribed load of medical supplies and equipment. Combat medics are organic to medical platoons/sections of movement and maneuver units. They are normally placed under the operational control of platoons/companies of maneuver battalions. Combat medics provide tactical combat casualty care to wounded soldiers.

AMBULANCE SQUAD

2-3. An ambulance squad is comprised of four health care specialists and two ambulances (two ambulance teams). Ambulance squads are organic to medical platoons or sections in movement and maneuver units, to sustainment medical companies, medical companies (ground ambulance), and medical companies (area support) assigned to medical battalions (multifunctional). Ambulance squads provide direct support for medical evacuation or they provide medical evacuation on an area support basis throughout the AO. The ambulance teams of a maneuver battalion's medical platoon are placed either in direct support of a company/team or are collocated with the treatment squad (battalion aid station). When collocated, they are dispatched from the battalion aid station to reinforce a team in direct support or to evacuate patients from units on an area support basis.

Note. Armored ambulances require a third medic to perform en route care.

TREATMENT SQUAD

2-4. The treatment squad consists of the medical platoon leader (field surgeon), a physician assistant, three health care sergeants, and three health care specialists. The squad is trained and equipped to provide advanced trauma management to the combat casualty. Advanced trauma management is emergency care designed to resuscitate and stabilize the patient for evacuation to the next role of care. To maintain contact with the combat maneuver element, each squad has two emergency treatment vehicles. Each squad can split into two trauma treatment teams, an A-team (which has the physician) and a B-team (which has the physician assistant). These squads are organic to medical platoons/sections in maneuver battalions, and designated sustainment units. Treatment squads may be employed anywhere in the joint operational area. When not engaged in providing advanced trauma management, these elements provide routine sick call services on an area basis.

AREA SUPPORT SQUAD

2-5. The area support squad is comprised of one Dental Corps officer, a dental specialist, a radiology sergeant, a radiology specialist, a medical laboratory sergeant, and a medical laboratory specialist. The squad is organic to the medical companies of brigade combat teams and medical company (area support) in echelons above brigade. The medical companies of the brigade combat teams have two additional personnel in their area support squads, a physical therapist, and a physical therapy sergeant. The dental officer is advanced trauma management-trained and provides additional treatment capabilities to the Role 2 MTF during mass casualty situation.

PATIENT-HOLDING SQUAD

2-6. The patient-holding squad consists of a medical-surgical nurse, two health care sergeants, and two health care specialists. It is capable of holding and providing minimal care for up to 40 return to duty patients in the medical company (area support) and 20 return to duty patients in the medical companies of the brigade combat teams. This squad is organic to the medical companies of brigade combat teams and the medical company (area support).

Note. When a treatment squad, an area support squad, and a patient-holding squad are collocated, they form an area support section (Role 2 MTF). This section provides AHS support on an area basis to all forces within the AO. The area support section normally operates in sustainment areas and areas having high concentrations of troops in echelons above brigade. The area support and patient-holding squads are incapable of independent operations.

FORWARD SURGICAL TEAM

2-7. The forward surgical team is assigned to the combat support hospital when not operationally employed forward. The forward surgical team may be further attached to brigade combat team medical companies or the medical company (area support). The mission of the forward surgical team is to provide a rapidly deployable immediate surgical capability, enabling patients to withstand further evacuation. It provides surgical support in the brigade combat team. The requirement to project surgery forward increases as a result of the extended battlefield. This small lightweight surgical team is designed to complement and augment emergency treatment capabilities for the brigade combat team. The forward surgical teams are clinically standard modules regardless of their assignment. The team provides damage control surgery for those critically injured patients who cannot be transported over great distances without surgical intervention and stabilization. Refer to Chapter 3, Section X, for additional information.

SECTION II — MEDICAL COMPANY (AREA SUPPORT)

MISSION

2-8. The medical company (area support) (TOE 08457R000) (Figure 2-1) provides Role 1 and Role 2 AHS support to units located in its AO.

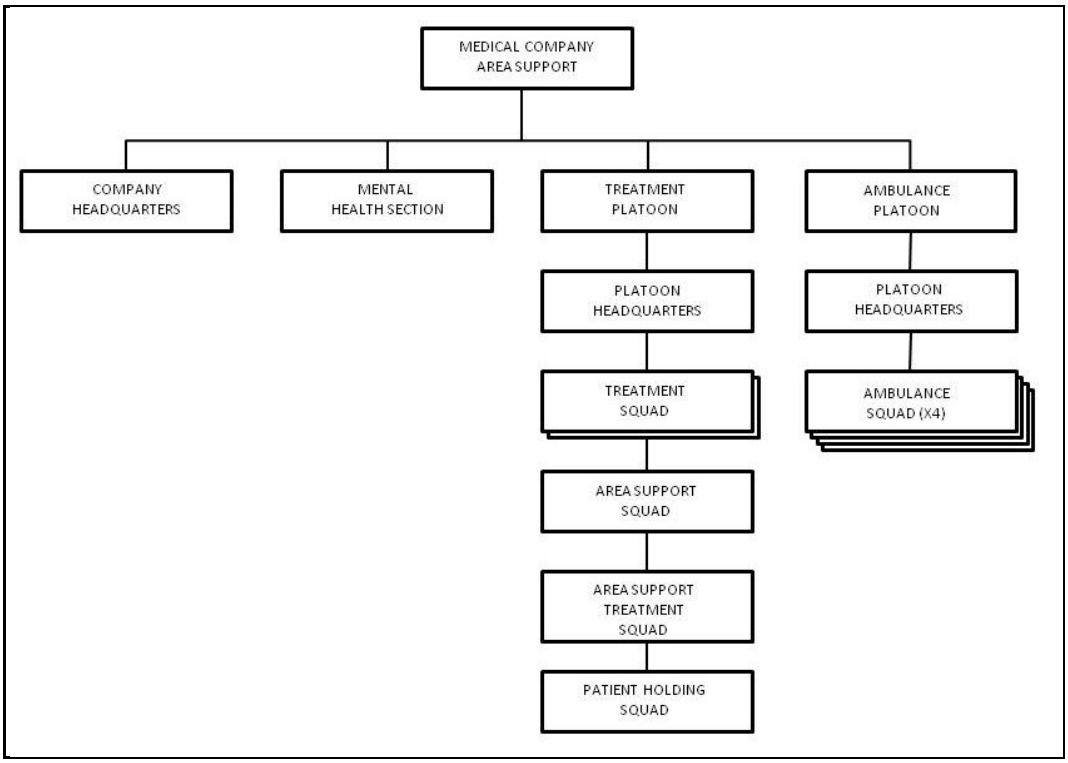

Figure 2-1. Medical company (area support)

ASSIGNMENT AND DEPENDENCIES

ASSIGNMENT

2-9. This company is assigned to the HHD, medical battalion (multifunctional) (TOE 08485R000).

DEPENDENCIES

2-10. This unit is dependent upon appropriate elements of the theater Army for religious, legal, finance, and human resources services.

EMPLOYMENT

2-11. The medical company (area support) is employed with the medical battalion (multifunctional) and is primarily at echelons above brigade. It provides area medical support for designated nonbrigade combat team units.

BASIS OF ALLOCATION

2-12. This unit is allocated on a basis of one per 10,000 nonbrigade combat team troops supported in the committed brigade, division headquarters, and corps headquarters and the committed Army Service component command.

CAPABILITIES

2-13. This unit provides—

- Treatment of patients with disease and minor injuries, triage of mass casualties, initial resuscitation/stabilization, advanced trauma management, and preparation for further evacuation of ill, injured, and wounded patients who are incapable of returning to duty within 72 hours.
- Treatment squads which are capable of operating independently of the medical company (area support) for limited periods of time.
- Evacuation of patients from units within the medical company (area support) AO to the treatment squads of the medical company (area support).
- Emergency medical supply/resupply to units operating within the medical company (area support) AO.
- Behavioral health consultation and education support, to include coordinating operations of attached combat and operational stress control elements operating within the medical company (area support) AO. Refer to Army medical doctrine for additional information on combat and operational stress control.
- Pharmacy services, laboratory, and radiological services commensurate with Role 2 medical treatment.
- Operational dental care services to include emergency dental, stabilization of maxillofacial injuries, essential care designed to prevent and manage potential dental emergencies, and limited preventive dentistry. Refer to Army medical doctrine for additional information on preventive dentistry.
- Patient holding for up to 40 patients.
- Outpatient consultation services for patients referred from units with only Role 1 capabilities.
- Food service support for staff and patients.

2-14. This unit is not adaptable to a Type B organization.

2-15. Individuals of this organization can assist in the coordinated defense of the unit's area.

2-16. This unit does not perform field maintenance on any organic equipment including communications-security equipment. The maintenance personnel will augment the maintenance capability of the unit that performs field maintenance on the unit's organic vehicles and power equipment.

FUNCTIONS AND REQUIREMENTS

COMPANY HEADQUARTERS

2-17. The company headquarters provides mission command for the company and other medical units that may be attached. It also provides general and medical supply/resupply, food service, arms maintenance, CBRN defensive operations, and communications support to organic and attached elements. Personnel of this section supervise unit operations, general supply, medical supply, field kitchen operations, communications, and power-generation operations.

Command Element

2-18. The command element is responsible for providing billeting, security, training, administration, and discipline for assigned personnel. This element provides mission command for its assigned and attached personnel.

Food Service Element

2-19. The food service element is responsible for providing food service support for the staff and patients of the medical company (area support) and to other medical elements dependent upon the medical company (area support) for support. Refer to Army doctrine for additional information on food service operations.

Maintenance Element

2-20. This element provides unit-level maintenance for wheeled vehicles and power generators assigned to the medical company (area support).

Vehicle Maintenance

2-21. The three light-wheeled vehicle mechanics are under the technical supervision of the medical battalion (multifunctional) senior mechanic. These personnel perform organizational preventive maintenance checks and services and repairs on the gasoline and diesel-fueled, light-wheeled vehicles of the company and attached units.

Power-Generation Equipment

2-22. A power-generator equipment repairer performs unit or direct support/general support maintenance functions. This includes overhauling, but not rebuilding, power-generation equipment up through 200-kw capacity. Generator maintenance performed at the medical company (area support) will include—

- Servicing and scheduling maintenance.
- Inspecting equipment and determining category of maintenance and extent of repairs required.
- Repairing tactical utility and precise power-generation equipment.
- Maintaining maintenance records on all power-generation equipment.

MENTAL HEALTH SECTION

2-23. The mental health section provides training and advice in the control of stressors, the promotion of positive combat and operational stress behaviors, and the identification, handling, and management of misconduct stress behaviors. It coordinates combat and operational stress control training for supported units (to include small-unit leaders, unit ministry teams and staff chaplains, battalion medical platoons, and patient-holding squad personnel) through the medical company (area support) commander and the medical brigade psychiatrist. The section collects and records social and psychological data and counsels personnel with personal, behavioral, or psychological problems.

TREATMENT PLATOON

2-24. The treatment platoon operates the echelons above brigade Role 2 MTF. It receives, triages, treats, and determines the disposition of patients based on their medical condition. This platoon provides professional services in the areas of minor surgery, internal medicine, general medicine, and general dentistry. In addition, it provides basic diagnostic laboratory and radiological services and patient-holding support.

Treatment Platoon Headquarters Element

2-25. The headquarters element directs, coordinates, and supervises platoon operations. The platoon leader assumes command of the company when the commander is absent. The headquarters element directs the activities of the medical company (area support) Role 2 MTF and monitors Class VIII supplies, blood usage, and inventory levels, and keeps the commander informed. The headquarters element is responsible for the management of platoon operations, operations security, communications, administration, organizational training, supply transportation, patient accountability and statistical reporting functions, and coordination for patient evacuation. The treatment platoon headquarters is also responsible for—

- Supervising the treatment platoon support activities.
- Coordinating the movement of treatment squads within the medical company (area support) AO.
- Accomplishing the logistics functions for the platoon.

Medical Treatment Squads

2-26. The two medical treatment squads provide emergency and routine sick call treatment to Soldiers assigned to units within the medical company (area support) AO. These squads can perform their functions

while collocated in the company area or they split and operate as separate treatment teams (team A and team B) for limited periods of time. When split the field surgeon heads treatment team A and the physician assistant heads treatment team B. While operating in these split modes, they may operate up to four treatment teams. They can be assigned to reinforce or reconstitute similar treatment squads.

Area Support Squad

2-27. The area support squad includes a dental element, a medical laboratory element, and an x-ray element which has a field x-ray capability. It provides basic services commensurate with a Role 2 MTF.

Area Support Treatment Squad

2-28. The area support treatment squad is the base medical treatment element of the Role 2 MTF established by the medical company (area support). It provides sick call services and initial resuscitative treatment (advanced trauma management and emergency medical treatment) for supported units.

Dental Element

2-29. The dental element provides operational dental care (to include treatment of minor maxillofacial injuries), general dental care (designed to prevent and manage potential dental emergencies), limited preventive dentistry, consultation services, and dental x-ray services.

Medical Laboratory Element

2-30. The medical laboratory element performs clinical laboratory and blood-banking procedures to aid physicians and physician assistants in the diagnosis, treatment, and prevention of diseases. Laboratory functions include performing elementary laboratory procedures consistent with the Role 2 laboratory medical equipment set. This element is responsible for—

- Storing and issuing blood (liquid red blood cells).
- Performing hematocrit procedures.
- Performing/estimating total white blood cell count and differential white blood cell count procedures.
- Performing urinalysis (macroscopic and microscopic) and occult blood procedures.
- Conducting Gram's stain of clinical specimen procedures.
- Collecting and processing clinical specimens for shipment.
- Performing platelet estimates.
- Performing thick and thin smears for malaria.
- Maintaining the blood inventory status.

x-ray Element

2-31. The x-ray element operates radiological equipment consistent with the Role 2 x-ray medical equipment set. This element performs routine clinical x-ray procedures to aid physicians and physician assistants in the diagnosis and treatment of patients. Specific functions performed by this element include—

- Interpreting physician's orders, applying radiation and electrical protective measures, operating and maintaining portable x-ray equipment, and taking x-rays of the extremities, chest, trunk, and skull.
- Assisting the CBRN noncommissioned officer with radiological monitoring, surveying, and documentation procedures.
- Serving on the radiological monitoring and surveying team.
- Operating and maintaining the assigned power generator.

Patient-Holding Squad

2-32. The patient-holding squad operates the holding ward facility for the echelons above brigade Role 2 MTF. The holding ward is staffed and equipped to provide care for up to 40 patients.

2-33. Normally, only those patients awaiting evacuation or those requiring treatment of minor illness or injuries are placed in the patient-holding area. Neuropsychiatric patients and combat and operational stress control casualties who are expected to be returned to duty within 72 hours may also be placed in the patient-holding area. The patient-holding squad works under the direct supervision of a physician or physician assistant. The medical-surgical nurse assigned to the patient-holding squad provides nursing care supervision. Since Role 2 MTFs do not have an admission capability, patients may only be held at this facility and are not counted as hospital admissions. If recovery (return to duty) is not expected within 72 hours, the patients are evacuated to a hospital facility for admission.

AMBULANCE PLATOON

2-34. The ambulance platoon performs ground evacuation and en route patient care for supported units. The ambulance platoon consists of a platoon headquarters, four ambulance squads (or eight ambulance teams), one high-mobility multipurpose wheeled vehicle control vehicle, and eight ambulances.

Ambulance Platoon Headquarters Element

2-35. The ambulance platoon headquarters provides supervision and management of the ambulance platoon. It maintains communications to direct ground evacuation of patients. It also provides ground ambulance evacuation support for units receiving area support from the medical company (area support) to the company's treatment squad/team location or to the Role 2 MTF.

2-36. Further evacuation to echelons above brigade hospitals is the responsibility of the medical company (ground ambulance) assigned to the medical battalion (multifunctional) or air ambulances. Personnel assigned to the ambulance platoon headquarters include the platoon leader and platoon sergeant. The ambulance platoon headquarters element directs and coordinates ground evacuation of patients within the medical company (area support) AO. This element supervises the platoon and plans for its employment. It establishes and maintains contact with supported units and treatment squads of the medical company (area support). The ambulance headquarters element makes route reconnaissance and develops and issues strip maps. It also coordinates and establishes ambulance exchange points for ground ambulances as required.

Ambulance Squad

2-37. There are four ambulance squads which provide ground evacuation of patients from units and organic treatment squads/teams (aid stations) within the support sector of the medical company (area support). Ambulance squad personnel perform emergency medical treatment, evacuate patients, and provide for their continued care en route.

2-38. Ambulance squad personnel operate vehicles to evacuate the sick and wounded and perform preventative maintenance checks and services on ambulances and associated equipment. Ambulance squad personnel maintain supply levels for the ambulance medical equipment sets. They ensure that appropriate property exchange of medical items (such as litters and blankets) is made at sending and receiving MTFs.

MOBILITY

2-39. This unit requires 100 percent mobility of its TOE equipment to be transported in a single lift using organic vehicles.

ARMY GLOBAL FORCE POOL

2-40. The medical company (area support) is a building block of the Army's Global Force Pool of operational forces. In support of the Army Force Generation Process, medical company (area support) is typically categorized as Theater Available Structure, deployed under the combatant command authority and

established for the primary purpose of fulfilling global operational requirements of both an enduring and rotational nature. These capabilities are Service-assigned to support operations on a per mission basis.

Chapter 3

Hospitalization

The combat support hospital provides essential care within the theater evacuation policy to either return the patient to duty and/or stabilize the patient for evacuation to a definitive care facility outside the AO. The hospital's assigned medical personnel, facilities, equipment, and materials provide the requisite capabilities to render significant preventive and curative health care. These highly robust services encompass primary inpatient and outpatient care; emergent care; and enhanced medical, surgical, and ancillary capabilities. The modular design of the hospital provides the capability to tailor and deploy capabilities as modules or multiple individual capabilities that provide incrementally increased medical services. The combat support hospital may be augmented by one or more medical detachments, hospital augmentation teams, or medical teams designed to enhance the hospital's capabilities to provide health service support to the AO.

SECTION I — THE 248-BED COMBAT SUPPORT HOSPITAL

3-1. This section provides an overall discussion of the combat support hospital, its mission, allocation, assignment and capabilities, organization, and functions. It makes reference to other sections of this chapter that discusses the hospital's adaptive medical increments and its split-base capability.

MISSION

3-2. The mission of this hospital is to provide hospitalization and outpatient services for all classes of patients within the AO.

BASIS OF ALLOCATION

3-3. This hospital variant supports the requirement for all combat zone intensive care unit/intermediate care ward bed requirements (75 percent of the total conventional [wounded in action/disease and nonbattle injury] bed requirements; 78.5 percent of the unconventional blister; and 45 percent of nerve). To support the minimal care ward bed requirements (25 percent of the total wounded in action/disease and nonbattle injury; 21.5 percent of the unconventional blister; and 55 percent of nerve), the medical detachment (minimal care) (TOE 08949A000) must be added to the hospital bed requirements.

ASSIGNMENT AND CAPABILITIES

3-4. The combat support hospital will normally be assigned to a medical brigade (support), but may be assigned to a medical command (deployment support) or a joint/combined task force.

3-5. The combat support hospital provides hospitalization for up to 248 patients and treatment for all classes of patients.

3-6. Surgical capacity is based on six operating room tables staffed for 96 operating table hours per day. The six operating room tables are contained in three operating room ISO shelters. Surgical capabilities include general, orthopedic, thoracic, urological, gynecological, and oral maxillofacial.

3-7. Other capabilities include—

- Mission command of organic and attached elements to include AHS planning, policies, and support operations within the hospital AO.
- Emergency treatment to receive, triage, and resuscitate casualties to include civilians and enemy prisoners of war, as required.
- Consultation services for inpatient and outpatient support.
- Pharmacy, psychiatry, public health nursing, clinical laboratory, blood banking, radiology, physical therapy, and nutrition care services.
- Medical administrative and logistical services.
- Operational dental care treatment.
- Medical logistics support to the forward surgical team, when attached.
- Reconstitution of the forward surgical team as directed by higher headquarters or the operation plan.

3-8. For maximum use of the combat support hospital, the entire organization should deploy together. However, due to its limited mobility and the availability of transportation support, it may be necessary to deploy by modules/echelons.

HOSPITAL SUPPORT REQUIREMENTS

3-9. The combat support hospital is dependent upon appropriate elements of echelons above brigade, medical command (deployment support), Army Service component command, or supporting elements within the AO for personnel and administrative services; legal; finance; mortuary affairs; security of enemy prisoners of war patients and U.S. prisoner patients; transportation services when single-lift requirements exceed unit capability; vehicle recovery operations; transportation and reequipping for return to duty personnel, to include individual clothing and equipment, seasonal outer garments, chemical protective garments; and shower and laundry services for other than patient-related linens. Other support requirements include—

- Quartermaster supply company for Class I rations and the medical diet supplement required for patient feeding.
- Engineer combat battalion (heavy) for site preparation, construction or modification of waste disposal areas, operational area protection, and minor construction.
- Medical detachment (veterinary services) and medical detachment (veterinary service support) for veterinary support for zoonotic disease control, assistance with foodborne disease outbreak investigation, and inspection of medical and nonmedical rations, to include suspected CBRN-contaminated rations and disposition recommendations; inspection and procurement of bottled water and ice manufacturing facilities for consumption by U.S. Forces; and investigation of animal bites.
- Medical detachment (preventive medicine) for inspections of food service facilities; water potability; field sanitation activities; wet bulb globe temperature index; medical and nonmedical waste disposal management and industrial hygiene; waste anesthetic gases; and provision of pest management support, including retrograde cargo inspections that are beyond the capabilities of the hospital staff.
- Area medical laboratory for theater validation (CBRN) levels of identification support; analytical chemistry support; analytical microbiology support; and environmental surveillance support for identification of CBRN threats in air, water, soil; and diagnostic capability.

HOSPITAL ORGANIZATION AND FUNCTIONS

3-10. The combat support hospital is a modular-designed facility that consists of an HHD and two hospital companies (one 84-bed hospital company and one 164-bed hospital company).

HEADQUARTERS AND HEADQUARTERS DETACHMENT

3-11. The HHD provides mission command of all organic/attached units, to include AHS planning, policies, and support operations within the combat support hospital AO. It is dependent upon other support units in echelons above brigade and will be located where elements of these support units can provide support.

Command Section

3-12. The command section provides internal mission command and management of the hospital. It provides administrative support, prepares unit plans for movement, routine and specialized operations, and mission-related task organization. Personnel of this section supervise and coordinate surgical, nursing, medical, pastoral, operations, information management/communications, logistical, and administrative services of the HHD and the hospital, when consolidated. When deployed with the hospital company A (84 bed), these personnel will augment the surgical, nursing, pastoral, administrative, and operation services. The chiefs of surgical and nursing services are trained in advanced trauma management. The chief, surgical service may also functions as the deputy commander for professional services. The chief, nursing service is the principal advisor to the hospital commander for nursing activities. All operation element functions will be under the direct supervision of the deputy commander for operations and administrative services (this officer will also function as the hospital executive officer).

S-1 Section

3-13. Administrative services (personnel staff officer [S-1]) section provides overall administrative services for the hospital, to include personnel administration, mail distribution, awards and decorations, leaves, and typing support. This section coordinates with elements at echelons above brigade for finance, personnel, and administrative services.

S-2/S-3 Section

3-14. Hospital operations (intelligence staff officer [S-2]/operations staff officer [S-3]) section is responsible for plans, operations, security, deployment, and relocation of the hospital. It establishes and operates a net control station for radio communications. It uses automated tools for movement control and terrain analysis for unit lay down and security plans. It provides the commander with the necessary summary data to facilitate course of action analysis, resource management, and planning.

S-4 Section

3-15. The logistics staff officer (S-4) section serves as the focal point for coordination/communication with other general logistics supply and service units. Refer to Appendix A for hospital planning factors. This appendix provides logistics functions throughout the hospital, to include general and medical supplies and maintenance; blood management; utilities such as water distribution, waste disposal, and environmental control of patient treatment areas; power and vehicle maintenance; and equipment records and repair parts and fuel distribution. This section coordinates with echelons above brigade elements for materiel handling equipment for movement of the hospital's Deployable Medical System (DEPMEDS) equipment, environmental control units, and power distribution equipment.

3-16. This section requests resupply from the supporting medical battalion (multifunctional) and echelons above brigade elements, using the Theater Army Medical Management Information System (TAMMIS) or a functional module of the Theater Medical Information Program-Joint(TMIP-J) and Medical Communications for Combat Casualty Care (MC4) systems. The TMIP-J/MC4 is the seamless, integrated, automated medical information system to support an AO and will rely on the Army communications architecture for transmission of medical data.

3-17. This section—

- Plans and coordinates contractual support requirements for the hospital. Examples where contracting support may be used are: food service for staff and hospitalized patients, shower and laundry, general housekeeping, health care providers who meet U.S. credentialling requirements

(physicians, nurses, and so forth), and medical equipment operators. The medical logistics officer identifies and coordinates contract support requirements with higher headquarters, which in turn coordinates with the commander's designated principal assistant responsible for contracting. When possible, contract support requirements should be identified by higher headquarters in contingency plans and operation orders.

- Maintains the unit property book and establishes a temporary morgue for handling remains until transported to supporting mortuary affairs organization.
- Ensures each return-to-duty Soldier has or is issued one basic serviceable uniform and coordinates with the theater sustainment command for the transportation of return-to-duty Soldiers to the replacement companies.
- Coordinates patient movement item requirements with the supporting medical logistics company. Refer to Army medical doctrine for additional information on patient movement items and logistical support.

3-18. When the combat support hospital is operating in a split-base mode, assets of the S-4 section and headquarters detachment augment the supply and service section, hospital company A (84 bed) and hospital company B (164 bed), to provide continuity of logistics support.

S-6 Section

3-19. The signal staff officer (S-6) section is responsible for the installation, operation, management, security, and maintenance of the local area network, to include unit file servers, archive devices and data storage procedures, information management systems resident on the local area network, and peripheral equipment in all sections of the hospital and attached units. It also plans for the integration of the hospital elements when consolidated. Other responsibilities include coordinating with the supporting signal unit commander for—

- Training in network operations.
- Hospital connectivity to area network.
- Hardware and software maintenance support.
- Managing network (frequency allocation, communications security, and so forth).

3-20. This section also provides unit-level maintenance and troubleshooting for all communications equipment. The S-6 is the primary interface between the hospital and the signal unit for all signal support requirements.

Automation Support Section

3-21. This section is responsible for the planning and operation of the unit information management systems to include MC4/TMIP-J. Each hospital section, with the exception of the hospital ministry, will be equipped with MC4/TMIP-J systems to process health care or patient administration information applicable to its functionality. The automation support section assists the commander and staff in the use of automated tools and plans for the horizontal and vertical internet of the hospital for any given mission. It maintains compact disk read-only memory unclassified libraries of medical and operational information required for the HHD and hospital operations, to include medical references, doctrinal publications, and technical manuals. The section plans for emergency backup procedures in the event of component failures or catastrophic events. It coordinates with organic and attached hospital units to ensure integration of information management systems. The health service systems management officer is the hospital's agent for the automation information systems.

Laundry Section

3-22. The laundry section provides laundry services for patient-related linens. It coordinates with the corps headquarters for all other laundry support.

Detachment Headquarters

3-23. The detachment headquarters is responsible for company-level mission command, duty rosters, weapons control, general supply support, and mandatory training.

HOSPITAL COMPANY A (84 BED)

3-24. This company provides hospitalization for up to 84 patients consisting of two wards providing critical care nursing for up to 24 patients and three wards providing intermediate care nursing for up to 60 patients. Surgical capability includes general surgery and orthopedic surgery and is based on two operating room tables staffed for 36 operating room table hours per day. Requirements for additional surgical specialties in hospital company A (84 bed) can be met by elements of hospital company B (164 bed), the forward surgical team (when not deployed forward), or the hospital augmentation team (head and neck).

3-25. Hospital company A (84 bed) provides emergency treatment to receive, triage, and prepare incoming patients for surgery and to provide consultation and outpatient clinic services for patients referred from other MTFs.

3-26. This company also provides pharmaceutical, radiology and clinical laboratory services, to include limited basic microbiology screening and blood banking. It provides the administrative, patient administration, logistics, and nutritional care services required for full hospitalization. Organic hospital personnel set up and break down the unit shelter systems in preparation for unit operations or movement.

COMPANY HEADQUARTERS

3-27. This section is responsible for company-level mission command, duty rosters, weapons control, general supply support, and mandatory training.

S-6 SECTION

3-28. This section is responsible for installation, operation, management, and maintenance of the information management system and internal and external communications links for the company and attached elements. It plans for the communications and electronics integration of the company with the combat support hospital when consolidated. This section establishes the local area network connectivity for this company's module, as well as integration with the full combat support hospital and attached units.

PATIENT ADMINISTRATION SECTION

3-29. This section is responsible for the admission and disposition of patients; maintenance of patient records; security of patients' valuables; preparation of patient statistical reports; and ensures the development and implementation of privacy policies and procedures to include the Health Insurance Portability and Accountability Act (Public Law 104-191 and DODI 6025-18) for the company. It also coordinates requests for patient evacuation and provides reports to higher headquarters.

NUTRITION CARE SECTION

3-30. This section is responsible for nutrition services, meal preparation, and meal distribution to patients and staff, hospital food service planning, medical nutrition therapy, patient education, and command advice on health and nutrition and AO health promotion program. Hospital company A (84 bed) has field feeding capability for its company. Refer to Appendix B for additional information on nutrition care operations.

SUPPLY AND SERVICES SECTION/DIVISION

3-31. This section/division provides logistical functions for the hospital company and attached units, to include general and medical supplies; medical maintenance; blood management; water distribution, waste disposal, and environmental control of patient treatment areas; power and vehicle maintenance; fuel distribution; and equipment records and repair parts management.

TRIAGE/PREOPERATIVE/EMERGENCY MEDICAL TREATMENT SECTION

3-32. This section provides for the receiving, triaging, and stabilizing of incoming patients. The staff will receive patients, assess their medical condition, provide emergency medical treatment, and transfer them to the appropriate areas of the hospital unit. The staff is trained in emergency medical treatment and advanced trauma management, as appropriate to grade and skill level. The staff monitors patient conditions and prepares those requiring immediate surgery for the operating room. The litter bearers are responsible for the transportation of patients within the hospital unit. The emergency medical treatment personnel read from and input to the automated clinical record, using available information systems for both inpatients and outpatients. They use automated tools for access to medical and essential operational information.

SPECIALTY CLINIC SECTION

3-33. This section combines an outpatient medical treatment section, orthopedic services, psychiatric services, preventive medicine surveillance capability of disease and nonbattle injuries, and facilities support.

3-34. The staff provides inpatient and outpatient on-site and remote consultations, as requested; evaluation and treatment of infectious disease and internal medicine disorders; evaluation and treatment of skin disorders; and treatment of patients with gynecological disease, injury or disorders. They also provide inpatient and outpatient assessment and inpatient stabilization of neuropsychiatric patients. Neuropsychiatric stabilization is undertaken in the intermediate care wards under the supervision of the staff and attending physician. The section also provides casting, splinting, and traction services.

OPERATING ROOM/CENTRAL MATERIEL SERVICES SECTION

3-35. This section provides supervision of the operating room and central materiel services. It schedules the nursing staff, prepares and maintains the operating room and central materiel section, and maintains surgical and nursing standards within these areas. It functions with the anesthesia service section to perform initial surgery for battle and nonbattle injuries and follow-on surgery for patients who have received initial surgery at other MTFs. It provides general and orthopedic surgical services with two operating room tables for a total of 36 hours of operating table time per day. When augmented by specialty surgeons and equipment from other elements of the hospital and the hospital augmentation team, head and neck, it can provide thoracic, urological, obstetrics/gynecological, and oral maxillofacial surgical services. The forward surgical team, when not deployed forward, is an additional augmentation for the hospital. The operating room/central materiel services section provides records and reports to the commander for input to the commander's situation report. The staff reads from and inputs to automated clinical records, using available information systems. When consolidated, this section functions as one operating room/central service section.

ANESTHESIA SERVICES SECTION

3-36. This section provides and manages the anesthesia program and respiratory services for the unit. It provides supervision and administration of anesthetics to patients undergoing surgery. It ensures appropriate supervision of respiratory therapy for patients. It ensures the clinical validation of medical equipment and supply sets for each mission, the readiness of clinical standard operating procedures, and the proficiency of a nurse anesthetist and an operating room specialist to execute the mission of this section. The staff coordinates with and assists the emergency medical treatment section in trauma care services. When consolidated, this section functions with the anesthesia and respiratory services section as one service.

NURSING SERVICES SECTION

3-37. The chief, nursing services, is the chief nurse for this section. This section is responsible for the management of daily operations of nursing services throughout the unit, to include scheduling and supervision of nursing staff; preparation and coordination of duty rosters; emergency mass casualty plans; and contingency staffing. It plans, organizes, executes, and directs nursing care practices and activities of the unit. This section ensures training and readiness for deployment of the nurse anesthetist and operating

room specialist. It also ensures the clinical validation of medical equipment and supply sets of the unit for each mission, the readiness of clinical standard operating procedures, and the proficiency of the nurse anesthetist and the operating room specialist to execute the mission of this unit.

INTENSIVE CARE UNITS

3-38. Two 12-bed intensive care wards provide for critically injured or ill patients. The intensive care units manage surgical or medical patients, adult and/or pediatric, whose physiological status is so disrupted that they require immediate and continuous medical and/or nursing care. The staff is specially trained with the clinical and managerial skills necessary to deliver safe nursing care to patients with complex nursing and medical problems. The intensive care units are also used as a preoperative stabilization area and post anesthesia recovery area for patients either awaiting surgery or recovering from surgery.

INTERMEDIATE CARE WARD

3-39. The three intermediate care wards manage surgical or medical patients whose conditions require observation for real or potential life-threatening disease/injury. The acuity of care may range from those requiring constant observation to those patients able to ambulate and to begin to assume responsibility for their care. The level of care and acuity of these patients may fluctuate depending on the intensity of conflict. Although not routine, intermediate care ward patients may require monitoring devices and ventilator support. Each ward consists of 20 beds.

PATIENT FACILITIES

3-40. Patient facilities are required for each ward regardless of the type of ward or the hospital's bed configuration. They are required in both the hospital company A (84-bed) and hospital company B (164 bed).

3-41. Ambulatory patients will use the same latrines as the staff. The number of latrines established will be based on both the number of staff and the anticipated patient load. However, male and female latrines are required. Latrines need to be close enough to the ward areas for convenience of access while maintaining distances from dining facilities and water sources.

3-42. Nonambulatory patients require the use of bedpans and urinals. Disposal of fecal matter and urine and the sanitation of bedpans and urinals are major concerns. The sinks within the hospital will not be used for disposal of waste or for washing bedpans and urinals. One or more of the hospital latrines should be designated for emptying bedpans and urinals. Once the bedpans and urinals are emptied, they are washed (using a brush) with the wastewater disposed of in the latrine or designated area. An area should be established similar to that of a mess kit laundry line using metal garbage cans and immersion heater. One can must have warm soapy water and the other can must have clear boiling water. These cans must be clearly marked for use in washing bedpans and urinals only. The bedpans are then sanitized by submerging into boiling water for 30 seconds. The bedpans and urinals are then placed on hanging devices to air dry.

> ***Note.*** Personnel working with immersion heaters should be aware of the safety precautions and be trained in immersion heater lighting and operation.

3-43. An alternative consideration is the use of plastic bedpan liners. If plastic liners are used, they will reduce the requirement for cleaning and sanitizing the bedpan. The plastic liners will then be managed as solid waste.

ANCILLARY SERVICES

3-44. The senior officer in the pharmacy, laboratory, or radiology section is dual-hatted as the chief, ancillary services. This person reports to either the chief, professional services or directly to the hospital commander, depending on local policy. The chief, ancillary services is responsible for overseeing the daily operations of these three clinical support sections, to include tracking critical supplies, equipment, manpower issues, emergency mass casualty plans, and contingency staffing. This officer represents these

sections at command/staff meetings and hospital committees. The chief, ancillary services ensures training, readiness, and cooperation of personnel in these sections. The chief, ancillary services validates readiness and suitability of medical materiel sets of these sections for each mission, the readiness of section standard operating procedures, and the proficiency of personnel assigned to execute the mission. The chief, ancillary services plans, coordinates, and supervises the layout and design of these sections of the hospital.

Pharmacy Services Section

3-45. The pharmacy services section is responsible for developing, coordinating, and executing programs and policies that ensure the safe and appropriate use of medication. The following are key functions performed by the pharmacy services personnel:

- Develop, maintain, and publish the approved hospital formulary; screen all medication orders for drug-nutrient interactions or medication allergies.
- Monitor individual medication therapies for safe and appropriate disease state management; recommend alternative drug regimens to meet situational requirements.
- Monitor and report on all medication-related patient safety issues.
- Provide consultation services to medical and logistical staff.
- Monitor and enforce hospitalwide quality control of pharmaceuticals.
- Provide outpatient pharmacy services.
- Provide inpatient pharmacy services, including sterile products preparation services.
- Provide drug/medication information services.
- Provide bulk drug and controlled substance distribution support for patient care areas.
- Provide direct patient care services and pharmacy supply and support services.

3-46. The pharmacy services section exercises appropriate control and accountability for all controlled substances and rosters with signature documentation for all individuals approved by the commander to prescribe, receive, order, or distribute controlled drugs. The pharmacy provides outpatient medications for the required number of days to complete therapy and/or the supply of medications required for air evacuation out of the theater. It uses automated systems for requisition of pharmacy supplies and interfaces with other unit sections for bulk pharmacy orders and with the supply and services section for resupply. When consolidated, the pharmacy sections of hospital company A and hospital company B function as one service.

Laboratory Services/Blood Bank Section

3-47. This section performs analytical procedures in hematology, urinalysis, chemistry, blood banking, and limited basic microbiology screening. To perform analytical procedures in microbiology, the hospital requires the attachment of the hospital augmentation team, pathology. The staff provides blood banking services, including all routine blood grouping and typing, abbreviated crossmatching procedures, emergency blood collection, and blood inventory management. This section stores and issues liquid blood components and fresh frozen plasma. It coordinates with the supply and services section and directly with the medical logistic company and, as required, with the blood program office for blood supply and resupply requirements. It provides automated records and reports of current and projected blood status to the commander and higher headquarters. The corps hospital company A (84 bed) and hospital company B (164 bed) have laboratory and blood support capabilities. When consolidated, the laboratory services and blood bank of hospital company A and hospital company B function as one service.

Radiology Services Section

3-48. This section provides radiological services to all areas of the hospital unit and operates on a 24-hour basis. It prepares digital x-rays for transmission to the hospital radiologist or other consulting radiologists as requested by physicians. This section is responsible to the radiologist for standard operating procedures and policies. The radiology section is found in both the hospital company A (84 bed) and hospital company B (164 bed). When consolidated, the radiology sections of hospital company A (84 bed) and hospital company B (164 bed) function as one service.

HOSPITAL MINISTRY TEAM

3-49. This team is responsible to the commander for religious support and pastoral care ministry for all staff and patients. It promotes spiritual health within the unit and performs liaison and consultative functions to ensure continuity of patient care between the hospital unit, combat operational stress control units, and the patient's unit of origin. The team advises the commander on spiritual and behavioral health of unit personnel. It is responsible for providing inpatient daily clinical ministry to all nursing wards and the emergency medical treatment section, as required. The hospital ministry team is found in both hospital company A (84 bed) and hospital company B (164 bed). When consolidated, the hospital ministry team of hospital company A (84 bed) and hospital company B (164 bed) function as one service. The senior chaplain in each hospital is in the command section of the HHD.

HOSPITAL COMPANY B (164 BED)

3-50. This company provides hospitalization for up to 164 patients, consisting of two wards providing critical care nursing for up to 24 patients and seven wards providing intermediate care nursing for up to 140 patients. Surgical capability, including general, orthopedic, thoracic, urological, gynecological, and oral maxillofacial, is based on four operating room tables staffed for 60 operating table hours per day. This company, when attached, also provides operating room space and time and table hours required by the hospital augmentation team, head and neck. Requirements for additional surgical specialties in the hospital company B (164 bed) can be met by the hospital augmentation team, head and neck and forward surgical team (when not deployed forward).

3-51. The hospital company B (164 bed) provides emergency treatment to receive, triage, and prepare incoming patients for surgery and provides consultation and outpatient clinic services for patients referred from other MTFs. This company also provides a clinical laboratory, to include limited basic microbiology, blood banking, and radiology services. It provides the administrative, logistical, patient administration, and nutritional care services required for full hospitalization. Organic hospital personnel set up and break down the unit shelter systems in preparation for unit operations or movement.

COMPANY HEADQUARTERS

3-52. This headquarters is responsible for company-level mission command, duty rosters, weapons control, general supply support, and mandatory training.

PATIENT ADMINISTRATION SECTION

3-53. This section is responsible for the admission and disposition of patients, maintenance of patient records, security of patient valuables, and preparation of patient statistical reports for the company. It also coordinates requests for patient evacuation and provides reports to the hospital commander.

NUTRITION CARE SECTION

3-54. This section is responsible for providing hospital unit nutrition services, meal preparation and service to patients and staff, dietetic planning, medical nutrition therapy, patient education, and serves as the command advisor on health and nutrition and AO health promotion program**.** See Appendix B for additional information on nutrition care operations.

SUPPLY AND SERVICES DIVISION

3-55. This division is responsible for the logistical functions of the hospital company and attached units, to include general and medical supplies; medical maintenance; blood management; water distribution, waste disposal, and environmental control of patient treatment areas; power and vehicle maintenance; fuel distribution; and equipment records and repair parts management. Additionally, this division is responsible for coordinating with the supporting element of the medical logistics company for the return of patient movement items. Medical logistics will be managed utilizing the medical logistics module of TAMMIS.

TRIAGE/PREOPERATIVE/EMERGENCY MEDICAL TREATMENT SECTION

3-56. This section provides for the receiving, triaging, and stabilizing of incoming patients. The staff will receive patients, assess their medical condition, provide emergency medical treatment, and transfer them to the appropriate areas of the hospital unit. The staff will be trained in basic and advanced cardiac life support, emergency medical treatment, and advanced trauma management as appropriate to grade and skill level. The staff monitors patient conditions and prepares those requiring immediate surgery for the operating room. The litter bearers are responsible for transportation of patients within the hospital unit. The emergency medical treatment section personnel read from and input to the automated clinical records using available information systems for both inpatients and outpatients. They use automated tools to access medical and essential operational information. The section communicates directly with incoming evacuation platforms (ground and air) to provide en route telementoring and to ensure readiness of the section to receive incoming patients.

OPERATING ROOM/CENTRAL MATERIEL SERVICES SECTION

3-57. This section provides supervision of the operating room and central materiel service. It schedules nursing staff, prepares and maintains the operating room and central materiel service section, and maintains surgical and nursing standards within these areas. It functions with the anesthesia section to perform initial surgery for battle and nonbattle injuries and follow-on surgery for patients received from other MTFs. It provides general, orthopedic, thoracic, urological, gynecological, and oral maxillofacial surgical services with four operating room tables for a total of 60 hours of table time per day. It uses automated tools to maintain projected operating room schedules and determine operating room surgical backlog in terms of projected hours to complete each surgery and numbers of patients. It provides records and reports to the commander for input to the commander's situation report. The staff reads from and inputs to the automated clinical record using available information systems. It accesses digital x-ray files for patient care during surgery. The section functions with the 84-bed hospital company and performs as one surgical service when consolidated.

ANESTHESIA SERVICES SECTION

3-58. This section provides and manages the anesthesia program and respiratory services for the unit. It provides supervision and administration of anesthetics to patients undergoing surgery. The staff ensures the clinical validation of medical equipment and supply sets for each mission, the readiness of clinical standard operating procedures, and the proficiency of the nurse anesthetist and the operating room specialist to execute the mission of this section. The section coordinates with and assists the emergency medical treatment section in trauma care services. When consolidated with the hospital company A (84 bed) anesthesia and respiratory services, the sections operate as one service section.

SPECIALTY CLINIC SECTION

3-59. This clinic provides patient services including sick call for staff and attached units. The clinic staff provides primary care and internal medicine consultation services for hospital patients and patients referred from other MTFs. This clinic functions in conjunction with the emergency medical treatment section to efficiently provide treatment for incoming ambulatory patients. It evaluates and treats dermatological and gynecological diseases, injuries, and disorders. It provides orthopedic and physical therapy services. It also provides preventive medical treatment surveillance capability to monitor disease and nonbattle injuries. This clinic also provides outpatient psychiatry and inpatient neuropsychiatric consultation services. Neuropsychiatric stabilization is undertaken in the intermediate care ward beds or minimal care detachment under the care of the psychiatric staff and attending physician.

DENTAL SERVICES SECTION

3-60. This section provides dental services and consultation for patients and staff. The alternate wartime role for this section is to augment the hospital with an additional combat casualty care capability. During mass casualty situations, the dentists assist in the delivery of advanced trauma management. The staff

reads from and inputs to the electronic dental record using available information systems for both inpatients and outpatients.

NURSING SERVICES SECTION

3-61. This section is responsible to the chief nurse for the management of daily operations of nursing services throughout the unit to include scheduling and supervision of nursing staff, preparation and coordination of duty rosters, emergency mass casualty plans, and contingency staffing. It plans, organizes, executes, and directs nursing care practices and activities of the unit. This section ensures training and readiness for deployment of a nurse anesthetist and an operating room specialist. It also ensures the clinical validation of medical equipment and supply sets of the unit for each mission, the readiness of clinical standard operating procedures, and the proficiency of nurse anesthetist and operating room specialist to execute the mission of this unit. It functions as a single nursing services section when the hospital functions as a 248-bed MTF.

INTENSIVE CARE UNITS

3-62. There are two intensive care wards in this hospital company. The capabilities of these intensive care units are discussed in paragraph 3-38.

INTERMEDIATE CARE WARDS

3-63. There are seven intermediate care wards in this hospital company. The capabilities of these wards are the same as discussed in paragraph 3-39.

ANCILLARY SERVICES

3-64. Refer to paragraphs 3-40 through 3-44 for information and functions of the ancillary services.

HOSPITAL MINISTRY TEAM

3-65. For information on the functions of the hospital ministry team refer to paragraph 3-45.

SECTION II — HEADQUARTERS AND HEADQUARTERS DETACHMENT 248-BED COMBAT SUPPORT HOSPITAL

3-66. The HHD, combat support hospital (TOE 08950R000) is modularly designed to provide mission command for split-base operations and enhance the ability to tailor AHS support to adapt to mission requirements of a smaller magnitude. This section discusses the headquarters section, early entry hospitalization element (44 bed) (TOE 08546RA00); the headquarters section, hospitalization augmentation element (40 bed) (TOE 08546RB00); the headquarters section, hospital company B (164 bed) (TOE 08546RC00); and the transportation element, HHD (248 bed combat support hospital) (TOE 08546AD00).

HEADQUARTERS SECTION, EARLY ENTRY HOSPITALIZATION ELEMENT (44 BED)

3-67. This headquarters section, early entry hospitalization element (44 bed) (TOE 08546RA00) provides mission command, administrative services, logistics support, and communications support to include information management to the early entry hospitalization element (44 bed) and hospital company A (84 bed), and assigned and attached units. It is authorized on the basis of one per combat support hospital (284 bed), TOE 08945R000. It will be deployed with the early entry hospitalization element (44 bed), hospital company A (84 bed) during the initial phase of split-base operation to form stand-alone hospitalization for up to 72 hours without further logistical support. When the headquarters section is deployed with the early entry hospitalization element (44 bed), it requires sustainment support as identified in paragraph 3-9. Additionally, the headquarters section requires field feeding, power generation for power consumers not

requiring a dedicated generator, and unit maintenance of all organic equipment except communications-electronic equipment from the unit of attachment.

3-68. The headquarters section is capable of transporting 5,000 pounds (208 cubic feet) of TOE equipment with organic vehicles. It has 1,659 pounds (67 cubic feet) of TOE equipment requiring transportation.

HEADQUARTERS SECTION, HOSPITALIZATION AUGMENTATION ELEMENT (40 BED)

3-69. The headquarters section, hospitalization augmentation element (40 bed) (TOE 08546RB00) provides mission command, administrative services, and logistics augmentation to the hospitalization augmentation element (40 bed), hospital company A (84 bed), and to assigned and attached units during split-base operations. It is authorized on the basis of one per combat support hospital (248 bed) (TOE 08945R000). It provides augmentation to operations and personnel section and logistical and communications support to include information management. It is also provides patient-related linen and coordination for all other laundry support. It requires sustainment support as identified in paragraph 3-9. Conceptually, this section reunites with the early entry hospitalization element (44 bed) and its supporting headquarters section within 72 hours to form hospital company A (84 bed).

3-70. The headquarters section is capable of transporting 10,200 pounds (502 cubic feet) of TOE equipment with organic vehicles. It has 6,637 pounds (333 cubic feet) of TOE equipment requiring transportation.

HEADQUARTERS SECTION, HOSPITAL COMPANY B (164 BED)

3-71. The headquarters section, hospital company B (164 bed) (TOE 08546RC00) provides mission command, administrative services, and logistics augmentation to hospital company B (164 bed) and to assigned and attached units during split-base operations. It is authorized on the basis of one per combat support hospital (248 bed) (TOE 08945R000). It provides augmentation to operations and personnel sections and logistics and communications support to include information management. It also provides patient-related linen and coordination for all other laundry support. When this headquarters section is deployed with the hospitalization augmentation element (164 bed), it requires sustainment support as identified in paragraph 3-9.

TRANSPORTATION ELEMENT, HEADQUARTERS AND HEADQUARTERS DETACHMENT, 248-BED COMBAT SUPPORT HOSPITAL

3-72. The transportation element, HHD, 248-bed combat support hospital (TOE 08546AD00) provides organic transportation for the HHD, combat support hospital (248 bed) (TOE 08950R000). It is authorized on the basis of one per combat support hospital (248 bed) (TOE 08945R000). This element has no personnel authorizations. It is dependent upon the unit of attachment for vehicle operations, accountability, and maintenance.

3-73. The transportation element is capable of transporting 9,000 pounds (722 cubic feet) of TOE equipment with organic vehicles. It has 40 pounds (0 cubic feet) of TOE equipment requiring transportation.

SECTION III — HOSPITAL COMPANY A (84 BED)

3-74. Hospital company A (84 bed) (TOE 08960R000) is modularly designed to provide split-base operations and to enhance the ability to tailor AHS support to adapt to mission requirements of a smaller magnitude. It consists of three separate organizations: early entry hospitalization element (44 bed) (TOE 08547RA00), hospitalization augmentation element (40 bed) (TOE 08547RB00), and transportation element, hospital company A (84 bed) (TOE 08547RC00). This section discusses each of the TOEs and their application in support of hospital deployment.

EARLY ENTRY ELEMENT (44 BED), HOSPITAL COMPANY A (84 BED)

3-75. The modular design of the combat support hospital allows specialized support capabilities to match mission requirements. The split-base operations capability of the combat support hospital reduces strategic-lift requirements and AO support requirements. The early entry hospitalization element (44 bed) (TOE 08546RA00) with its supporting headquarters section and transportation element, can be readily deployed to support Army, joint, multinational, and humanitarian contingencies when a complete combat support hospital is not required. This element, with augmentation from the headquarters section and transportation element, has the capability for 72 hours of stand-alone operations without resupply. If the force needs additional hospital assets later, medical commanders and AHS planners can deploy the remaining hospital augmentation element (40 bed), hospital company B (164 bed) and supporting headquarters sections. When it is determined that medical assets are no longer required they could be incrementally redeployed back to home station or to other locations.

3-76. The early entry hospitalization element (44 bed) provides hospitalization services for all classes of patients. It is authorized on the basis of one per combat support hospital (248 bed) (TOE 08945R000). It provides all clinical, ancillary, and sustainment support as discussed in paragraph 3-9.

3-77. The early entry hospitalization element (44 bed) is capable of transporting 773,099 pounds (50,050 cubic feet) of TOE equipment with organic vehicles. It has 306,892 pounds (35,419 cubic feet) of TOE equipment requiring transportation.

HOSPITALIZATION AUGMENTATION ELEMENT (40 BED)

3-78. The hospitalization augmentation element (40 bed) (TOE 08547RB00) augments the early entry hospitalization element (44 bed), hospital company A (84 bed) (TOE 08547RA00) by providing outpatient specialty clinic services, 40 intermediate care beds, and augmentation to the company headquarters and supply and service section. This unit is authorized on the basis of one per combat support hospital (248 bed) (TOE 08945R000). It requires sustainment support as identified in paragraphs 3-4 through 3-9.

3-79. This element has no organic transportation assets. When augmented by the transportation element, hospital company A (84 bed) (TOE 08547RC00), it is capable of transporting 200,000 pounds (11,890 cubic feet) of TOE equipment. It has 71,598 pounds (10,955 cubic feet) of equipment requiring transportation.

TRANSPORTATION ELEMENT, HOSPITAL COMPANY A (84 BED), COMBAT SUPPORT HOSPITAL

3-80. This transportation element (TOE 08547RC00) provides organic transportation for elements of hospital company A (TOE 08960R000). It is authorized on the basis of one per combat support hospital (248 bed) (TOE 08945R000). It is assigned to the combat support hospital (248 bed) and further attached to hospital company A (84 bed). It is dependent upon the unit of attachment for vehicle operations, accountability, and maintenance. This element has no personnel authorizations.

3-81. The transportation element is capable of transporting 282,500 pounds (10,706 cubic feet) of TOE equipment with organic vehicles. It provides 100 percent mobility to meet mission and function of the early entry hospitalization element (44 bed), and 35 percent to the remaining hospital company A (84 bed).

3-82. The transportation element has 363,201 pounds (43,504 cubic feet) of TOE equipment requiring transportation.

SECTION IV — MEDICAL DETACHMENT (MINIMAL CARE)

3-83. The medical detachment (minimal care) (TOE 08949A000) was unit designed under the Medical Reengineering Initiative.

MISSION

3-84. This detachment provides minimal care/convalescent care hospitalization, nursing, and rehabilitative services in support of echelons above brigade hospitalization. It provides oversight of holding and monitoring facilities for decontaminated biological warfare agent patients, patients with highly communicable diseases, and/or communicable disease contacts.

ASSIGNMENT

3-85. This detachment will be assigned to a medical brigade (support) and normally attached to a hospital.

CAPABILITIES

3-86. This detachment provides—

- Mission command of organic elements to include health support planning, policies, and support operations within the detachment's AO.
- Information to commanders and their staffs on the health and status of Soldiers in their command.
- Augmentation of the hospital to which attached to provide hospitalization and minimal nursing care, for up to 120 patients and for reconditioning and rehabilitation for those patients who can return to duty within the theater evacuation policy or who are awaiting further medical evacuation.
- Physical therapy and occupational therapy services for patients.
- Augmentation of the emergency nursing capabilities of the hospital to which attached during mass casualty situations.
- Augmentation to the nutrition care capabilities of the hospital to which attached to support patient feeding of this detachment.
- Augmentation to the patient administration section capabilities of the hospital to which attached.
- Three days of supply level for all organic elements upon deployment and during routine operations.

LIMITATIONS

3-87. This unit is dependent upon—

- Appropriate elements of the theater Army for religious, legal, finance, human resources services, laundry and shower, clothing exchange, mortuary affairs, transportation, maintenance, and communication/information management support.
- The hospital to which attached for food service, water distribution, personnel and administrative services, unit health services, medical treatment, patient administration, medical maintenance, supply (all classes), and unit maintenance for the detachment's communications equipment and power generator.
- The hospital to which attached for additional power requirements.
- The dental company (area support) and the medical detachment (combat and operational stress control) for augmentation of treatment capabilities.

BASIS OF ALLOCATION

3-88. This detachment supports the requirement for all combat zone minimal care ward bed requirements (25 percent of the total wounded in action/disease and nonbattle injury; 21.5 percent of blister; 55 percent of nerve; and 50 percent biological contacts) and all echelons above corps minimal care ward bed requirements (75 percent of total bed requirements with an 70 percent skip policy). To get the total bed requirements, medical detachment (minimal care) (TOE 08949A000) bed requirements must be added to the intensive care unit/intermediate care ward bed requirements generated by echelon above brigade

hospitals. For programming purposes, 2.604 minimal care detachments per 1,000 hospital patients in the corps.

MOBILITY

3-89. This unit has no mobility. This unit has 181,305 pounds (16,600 cubic feet) of TOE assets requiring transportation. When providing support to hospitals, elements of this unit will not move on a regular basis.

EMPLOYMENT

3-90. The medical brigade (support) will provide mission command to an assigned medical detachment (minimal care) and will ensure continuous provisions of minimal care beds as required to echelon above brigade hospitals. The medical detachment, minimal care, will be further attached to the hospital for support and is designed to provide 120 beds of minimal and convalescent care. Each squad of the detachment may be employed separately providing 40 minimal care beds per squad. The medical detachment (minimal care) provides nursing, physical therapy, and occupational therapy services for those patients expected to return to duty within the theater evacuation policy or who are awaiting further medical evacuation. The dental company (area support) and the medical detachment (combat and operational stress control) can provide appropriate support to augment the medical detachment (minimal care) treatment capabilities, if required.

CONCEPT OF OPERATIONS

3-91. The function of this detachment is to perform minimal care nursing, occupational therapy, and physical therapy for the patients admitted to the hospital to which attached and to other eligible personnel as determined by the medical command (deployment support)/medical brigade (support). Organic personnel of the detachment set up and break down unit shelters and power-generating equipment in preparation for detachment operations or detachment movement, set up the nursing care and occupational therapy/physical therapy areas, and perform routine minimal care nursing and rehabilitation/reconditioning for patients expected to return to duty within the theater evacuation policy or who are awaiting medical evacuation and require continued nursing supervision to include those individuals being monitored after suspected biological warfare agent/communicable disease contact. The detachment is normally attached to the hospital and provides a detachment headquarters, an occupational/physical therapy section, and three minimal care wards.

DETACHMENT HEADQUARTERS

3-92. The detachment headquarters provides mission command and administrative support. It performs unit plans and movement, routine and specialized operations, mission-related task organization, and coordinates directly with the hospital to which attached. Personnel of the detachment headquarters provide maintenance and supply and services to augment the respective sections of the hospital to which attached.

OCCUPATIONAL/PHYSICAL THERAPY SECTION

3-93. This section provides occupational therapy and physical therapy services to the detachment's inpatients. Personnel in this section augment the respective sections of the hospital to which attached.

MINIMAL CARE WARDS

3-94. Three minimal care wards provide nursing supervision and management of medical or surgical patients who are ambulatory and partially self-sufficient and are in the final stages of recovery awaiting return to duty or who are awaiting further medical evacuation. The focus of nursing management is on an aggressive therapeutic environment which speeds recovery for return to duty or which ensures stabilization and preparation for medical evacuation. Nursing personnel administer medications and treatments which cannot be done by the patient and provide instruction in self-care and posthospitalization health maintenance. Nursing personnel coordinate with occupational/physical therapy personnel for rehabilitation and reconditioning of patients. Nursing personnel also coordinate with the hospital to which attached for

routine and emergency medical treatment needs of patients. Nursing personnel also monitor individuals who may have been exposed to an infectious agent and require isolation until disease manifests or the individual is determined not to be infected/infectious. When attached to the hospital, it falls under the supervision of the chief nurse.

SECTION V — HOSPITAL AUGMENTATION TEAM (HEAD AND NECK)

3-95. The hospital augmentation team (head and neck) (TOE 08527AA00) was designed under the Medical Reengineering Initiative.

MISSION

3-96. The mission of this team is to provide ear, nose, and throat surgery, neurosurgery, and eye surgery augmentation in support of the AO hospitals and consultative services as required.

ASSIGNMENT

3-97. This team will be assigned to a medical brigade (support) or medical command (deployment support) and normally will be attached to a hospital.

CAPABILITIES

3-98. This detachment provides—

- Initial and secondary ear, nose, and throat surgery and consultation services in support of AO hospitals.
- Initial and secondary neurosurgery and consultation services in support of AO hospitals.
- Initial and secondary eye surgery and consultation services in support of AO hospitals.
- Augmentation of the hospital operating room surgical and nursing services.
- The medical materiel set (radiology, computerized tomography) which gives the hospital the capability to perform computerized tomography examinations.
- Three days of supply for all organic elements upon deployment and during routine operations.

LIMITATIONS

3-99. This detachment is dependent upon—

- Appropriate elements of the theater Army for legal, religious, finance, human resources, and administrative services, shower and laundry support, clothing exchange, patient decontamination, mortuary affairs, and enemy prisoner of war security during processing and evacuation.
- The hospital to which it is attached to provide sheltered operating rooms, commonly used equipment, pre- and postoperative nursing care for all patients, field feeding (to include patient food service), AHS support, water distribution, security, human resources and administrative services, transportation, unit maintenance for generator, power support for all equipment (except that related to the computerized tomography), patient administration, coordination of medical evacuation, and all classes of supply.
- The United States Army Medical Materiel Agency for the procurement of the medical materiel set (radiology, computerized tomography).

BASIS OF ALLOCATION

3-100. One per 650 conventional hospital patients in the theater.

MOBILITY

3-101. This unit has no organic mobility. This unit has 55,046 pounds (5,031 cubic feet) of TOE assets requiring transportation. Teams will move one time every two days on average. The average move will be approximately 25 kilometers.

CONCEPT OF OPERATIONS AND FUNCTIONS

3-102. The function of the hospital augmentation team (head and neck) is to provide preoperative assessment and perform neurosurgery, ear, nose, and throat surgery, and ophthalmic surgery for patients admitted to the hospital to which the unit is attached. The team will also provide the hospital with neurosurgical, ophthalmic, and otolaryngological consultation services and postoperative follow up. The equipment for the hospital augmentation team (head and neck) includes the medical materiel set (radiology, computerized tomography). This set provides the hospital augmentation team (head and neck) with the capability to perform computerized tomography scans prior to surgery and will decrease the previous requirement for exploratory surgery. The hospital augmentation team (head and neck) will include the power supply, radiology technicians, and medical equipment repair support required for the medical materiel set (radiology, computerized tomography). The hospital augmentation team (head and neck) does not include an operating room and work areas and will perform surgery utilizing the operating room/central materiel supply complex of the hospital to which it is attached. When attached to the hospital, it falls under the supervision of the chief, professional services.

SECTION VI — HOSPITAL AUGMENTATION TEAM (SPECIAL CARE)

3-103. The hospital augmentation team (special care) (TOE 08538AA00) was designed under the Medical Reengineering Initiative.

MISSION

3-104. The mission of this team is to augment the MTF with the necessary health care personnel and equipment to provide medical support during stability tasks and/or other military operations.

ASSIGNMENT

3-105. This unit is assigned to a medical command (deployment support) or a medical brigade (support) and further attached to a hospital or other MTF.

CAPABILITIES

3-106. This unit provides—

- Pediatric inpatient, consultation, and nurse practitioner services.
- Obstetrics/gynecology and specialty nursing services.
- Preventive medicine services.
- Public health nursing services.
- Family physician services.

LIMITATIONS

3-107. This unit is dependent upon—

- Appropriate elements of the theater Army for legal, religious, finance, human resources and administrative services, shower and laundry, patient decontamination, mortuary affairs, clothing exchange, AHS support, and enemy prisoner of war security during processing and evacuation.
- The hospital to which it is attached to provide sheltered working space, commonly used equipment, inpatient nursing care for all patients, patient food service, water distribution, transportation, security, human resources and administrative services, maintenance for organic

equipment, patient administration, coordination of medical evacuation, power to support all equipment, and all classes of supply.

- The Department of the Army Assistant Chief of Staff (Operations) (G-3) to grant release authority to the Office of The Surgeon General for issue of the medical equipment set, humanitarian care augmentation.

BASIS OF ALLOCATION

3-108. The basis of allocation is one team per theater.

MOBILITY

3-109. This team does not have organic lift capability and requires support for mobility. The preventive medicine physician, public health nurse, and family nurse practitioner will require a vehicle from the supported unit to perform their mission. This unit has 239 pounds (36 cubic feet) of TOE assets requiring transportation. Teams will move as directed by higher command.

EMPLOYMENT

3-110. The medical brigade (support) will provide mission command and support to the assigned hospital augmentation team (special care) and will ensure continuous provision of AHS support during operations. The team will be employed and further attached for support to hospitals.

CONCEPT OF OPERATIONS AND FUNCTIONS

3-111. The hospital augmentation team (special care) provides pediatric services, obstetrics/gynecology services, preventive medicine services, public health nursing services, and family physician services. This team is dependent upon the hospital to which assigned or attached for sheltered working space and Class VIII supply. It is also dependent upon Office of The Surgeon General and the U.S. Army Medical Materiel Agency for the medical equipment set (humanitarian care) upon deployment. The medical equipment set provides a MTF with the additional pediatric, obstetrics/gynecology, general medical, and nutritional supplies to support a civilian population of 10,000 people for 30 days. This medical equipment set provides basic items and is suitable for use as an initial push package to meet initial requirements. The intent is to deploy the team and a pre-positioned medical equipment set separately for issue in theater. The medical equipment set is not organic to the MTF modified TOE. It augments the MTF to support humanitarian missions. As such, the medical equipment set is not included in unit status reporting under the provisions of AR 220-1. The function of the hospital augmentation team (special care) is to provide additional medical providers and health care personnel to augment a MTF for increased capability to minimize nonbattle occupational injuries, support humanitarian missions, provide public health management of communicable disease/reportable conditions events, and to advise and provide health promotion services to optimize health maintenance during long-term deployments. The increased capability enhances the medical capacity to prevent/control/eliminate nonbattle injuries, epidemics, and other diseases/illnesses. This is accomplished by enhanced on-site monitoring and analysis of injury, communicable disease, and other illness reports; performance of epidemiologic investigations; contact tracing; environmental controls implementation; commander, staff, patient, and community education regarding required disease and injury control interventions. Additionally, the enhanced capability will include inpatient/outpatient care for a civilian population. When attached to the hospital, it falls under the supervision of the chief, professional services.

SECTION VII — HOSPITAL AUGMENTATION TEAM (PATHOLOGY)

3-112. The hospital augmentation team (pathology) (TOE 08537AA00) was designed under the Medical Reengineering Initiative.

MISSION

3-113. The mission is to provide pathology augmentation in support of the theater hospitals and consultative services as required.

ASSIGNMENT

3-114. The hospital augmentation team (pathology) is assigned to a medical command (deployment support) or a medical brigade (support) and is normally further attached to a hospital.

CAPABILITIES

3-115. The capabilities of this team are mission, enemy, terrain and weather, troops and support available, time available, and civil considerations-dependent. The team provides—

- Conducts limited investigative responses to CBRN warfare agents.
- Theater hospitals with an additional and an enhanced pathology capability in the following areas:
  - Anatomic pathology (for example, histology, cytology, and postmortem examination).
  - Enhanced chemistry (for example, toxicology, immunochemistry, and therapeutic drug monitoring).
  - Enhanced microbiology.
- Three days of supply for all organic elements upon deployment and during routine operations.

LIMITATIONS

3-116. This team is dependent upon—

- Appropriate elements of the theater Army for legal, religious, finance, human resources and administrative services, shower and laundry, clothing exchange, decontamination of remains, and transportation support when the unit is required to relocate.
- The hospital to which it is attached to provide partial sheltered working space, commonly used equipment, food service, water distribution, AHS support, security, personnel and administrative services, unit maintenance for generators, transportation, and all classes of supply.

BASIS OF ALLOCATION

3-117. The basis of allocation is one per 2,360 conventional hospital patients in theater.

MOBILITY

3-118. This team does not have organic lift capability and requires support for mobility. This unit has 5,449 pounds (388 cubic feet) of TOE assets requiring transportation.

EMPLOYMENT

3-119. The medical brigade (support) or medical command (deployment support) provides mission command and support to the assigned hospital augmentation team (pathology) and ensures continued provision of pathology services to echelons above brigade. The hospital augmentation team (pathology) is employed with and further attached for support to hospitals.

CONCEPT OF OPERATIONS AND FUNCTIONS

3-120. The function of the hospital augmentation team (pathology) is to augment hospital laboratories with a standardized team having capabilities for anatomic pathology, enhanced chemistry, and enhanced microbiology. Medical materiel sets augment existing clinical laboratory equipment to support anatomic pathology and enhanced chemistry capabilities. When attached to the hospital, the team falls under the

supervision of the chief, professional services and the technical supervision of the chief, laboratory services.

SECTION VIII — MEDICAL TEAM (RENAL HEMODIALYSIS)

3-121. The medical team (renal hemodialysis) (TOE 08537LB00) was initially developed based on Medical Force 2000 requirements and was not changed under the Medical Reengineering Initiative. It is a part of and is included in the Medical Reengineering Initiative-designed hospitalization support system.

MISSION

3-122. The mission of this team is to provide renal hemodialysis and consultive services to the hospital to which it is attached.

ASSIGNMENT

3-123. This team is assigned to a medical command (deployment support) or a medical brigade (support) and may be further attached to subordinate hospitals, as required.

CAPABILITIES

3-124. The medical team (renal hemodialysis) provides renal hemodialysis care for patients with acute renal failure and consultative services on an area basis.

LIMITATIONS

3-125. This team is dependent upon—

- Appropriate elements of the echelons above brigade or the theater Army for legal, religious, finance, shower and laundry, and clothing exchange support.
- The hospital to which it is attached to provide sheltered working space, commonly used equipment, field feeding (to include patient field feeding), AHS support, personnel and administrative services, unit level maintenance, transportation, security, patient administration, coordination of medical evacuation, power to support all equipment, and all classes of supply.

BASIS OF ALLOCATION

3-126. The basis of allocation for this team is one per 550 conventional hospital patients in theater.

MOBILITY

3-127. This team does not have organic lift capability and requires support for mobility.

EMPLOYMENT

3-128. The medical command (deployment support) or medical brigade (support) provides mission command and support to the assigned medical team and ensures continued support to echelons above brigade. It is attached to theater hospital, as required.

CONCEPT OF OPERATIONS AND FUNCTIONS

3-129. The function of the medical team is to provide support to hospitals as assigned. Its assignment is determined by the AHS planners of the medical command (deployment support)/medical brigade (support). When attached to the hospital, it falls under the supervision of the chief, professional services.

SECTION IX — MEDICAL TEAM (INFECTIOUS DISEASE)

3-130. The medical team, infectious disease (TOE 08537LC00) was initially developed based on Medical Force 2000 requirements and was not changed under the Medical Reengineering Initiative. It has been integrated into the Medical Reengineering Initiative hospitalization support system.

MISSION

3-131. The mission of this team is to provide infectious disease investigative and consultative services in support of echelons above brigade hospitals.

ASSIGNMENT

3-132. This team is assigned to a medical command (deployment support) or a medical brigade (support) and may be further attached to a subordinate hospital, as required.

CAPABILITIES

3-133. This team provides infectious disease investigation, takes measures to control the spread of the disease, assures access to health services, and provides consultative services to the medical unit to which attached. This team may include or partner with special care teams with a preventive medicine/public health nurse when public health measures are required.

LIMITATIONS

3-134. This team is dependent upon—

- Appropriate elements of echelons above brigade or the theater Army for legal, religious, finance, shower and laundry, and clothing exchange support.
- The hospital to which it is attached to provide sheltered working space, commonly used equipment, field feeding (to include patient field feeding), AHS support, personnel and administrative services, unit level maintenance, transportation, security, patient administration, coordination of medical evacuation, power to support all equipment, and all classes of supply.

BASIS OF ALLOCATION

3-135. The basis of allocation for this team is one per 800 conventional hospital patients in the AO.

MOBILITY

3-136. This team does not have organic lift capability and requires support from the combat support hospital for mobility.

EMPLOYMENT

3-137. The medical command (deployment support) or medical brigade (support) provides mission command and support to the assigned medical team and ensures its continued support to echelons above brigade. It may be attached to an echelon above brigade hospital, as required.

CONCEPT OF OPERATIONS

3-138. The function of this medical team is to provide support to hospitals as assigned. The AHS planners of the medical command (deployment support)/medical brigade (support) will determine its assignment. When attached to the hospital, the team falls under the supervision of the chief, professional services.

SECTION X — FORWARD SURGICAL TEAM

3-139. The forward surgical team is a 20-Soldier team which provides far forward surgical intervention to render nontransportable patients sufficiently stable to allow for medical evacuation to a Role 3 combat support hospital. Surgery performed by the forward surgical team is resuscitative surgery (often referred to as damage control surgery); additional surgery may be required at a supporting Role 3 hospital in the AO. Patients remain at the forward surgical team until they recover from anesthesia, once stabilized they are evacuated as soon as possible. The postoperative intensive care capacity of the forward surgical teams is extremely limited and there is no organic holding capability. When collocated with a medical company, the patient holding squad can provide a limited holding capability for the forward surgical team. The forward surgical team is not a self-sustaining unit and must be deployed with or attached to a medical company or hospital for support. Further, the forward surgical team is neither staffed nor equipped to provide routine sick call functions.

MISSION

3-140. The mission of this unit is to provide a rapidly deployable urgent initial surgical service forward in a brigade combat team and/or at echelons above brigade.

ASSIGNMENT

3-141. The medical team (forward surgical) (TOE 08518RA00) and the medical team (forward surgical [airborne]) (TOE 08518RB00) are assigned to the medical command (deployment support) or medical brigade (support) and further attached to the combat support hospital. When operationally employed the medical team (forward surgical) can be further attached to a medical company.

CAPABILITIES

3-142. This team is designed to provide—

- Continuous operations in conjunction with a supporting medical company for up to 72 hours.
- Urgent initial surgery for otherwise nontransportable patients.
- Emergency treatment to receive, triage, and prepare incoming patients for surgery; provide the required surgery; and continued postoperative care for up to 30 critically wounded/injured patients over a period of 72 hours with its organic medical equipment sets.
- Postoperative acute nursing care for up to eight patients simultaneously per team prior to further patient evacuation.
- Technical advice and assistance to the division surgeon and the division surgeon's section for the surgical services portion of the division plans and policies.
- Current information concerning surgical augmentation of Role 2 MTFs to higher headquarters.
- Team augmentation of the surgical capability of Role 3 hospitals.

BASIS OF ALLOCATION

MEDICAL TEAM (FORWARD SURGICAL)

3-143. The basis of allocation for the medical team (forward surgical) (TOE 08518RA00) is—

- One per committed heavy brigade combat team.
- One per committed Stryker brigade combat team.
- One per committed infantry brigade combat team (less airborne infantry brigade combat teams).
- One per two committed infantry brigade combat teams (less airborne infantry brigade combat teams) in a lesser contingency.

MEDICAL TEAM (FORWARD SURGICAL [AIRBORNE])

3-144. The basis of allocation for the medical team (forward surgical [airborne]) (TOE 08518RB00) is—

- One per committed infantry brigade combat team (airborne); one per special forces group (airborne) to a maximum of three.
- One per two committed infantry brigade combat teams (airborne) in a lesser contingency.

Note. During force entry operations, one medical team (forward surgical [airborne]) is authorized per infantry brigade combat team (airborne) in the force entry package.

MOBILITY

3-145. This unit is capable of transporting 100 percent of its TOE (personnel and equipment) and supplies in a single lift using its organic vehicles.

DEPENDENCY

3-146. The medical teams, forward surgical (TOEs 08518RA00 and 08518RB00) are designed to be dependent upon the appropriate elements in the AO to provide religious, legal, unit-level AHS support, finance, food service, personnel and administrative services, logistical support, generator support, unit maintenance, and communications/information management. These teams are further dependent upon—

- Headquarters and headquarters detachment, medical battalion (multifunctional) and the general support aviation battalion for patient evacuation.
- Medical battalion (multifunctional) or brigade combat team medical supply section for medical equipment maintenance and repair, blood distribution, and Class VIII resupply.
- Appropriate elements of the theater sustainment command for—
  - Rigging when airdrop operations are required (airborne only).
  - Sling load operations.

CAUTION

Current operations have demonstrated the need for flexibility and dictate that the forward surgical team may be required to conduct limited stand-alone operations. If deployed as a part of a multinational or coalition force, joint task force, or in support of special operations forces, the conventional support base the forward surgical team relies on may not be present in the AO. In order to operate successfully under these conditions, it is critical that the AHS planner consider personnel and equipment augmentation in the following areas: mission command and communications support; medical operations planning; power generation; vehicle maintenance; food service; protection (security); patient administration; pharmacy; patient holding; instrument sterilization; Class VIII resupply; medical equipment maintenance and repair; x-ray; medical laboratory; and sick call (primary care physician).

FUNCTIONS

3-147. The forward surgical team is a 20-Soldier team whose function is to perform triage/preoperative resuscitation, initial surgery, and postoperative nursing care. Organic personnel set up and break down the shelter system in preparation of operations or unit movement, prepare the patient for surgery, perform essential surgeries for a maximum of 30 patients within 72 hours, and provide postoperative nursing care and stabilization for medical evacuation to the next role of medical care. The forward surgical team

performs unit plans and movement, routine and specialized operations, and mission-related task organization, and coordinates directly with the Role 2 MTF to which it may be attached or collocated.

ADMINISTRATIVE FUNCTION

3-148. Administrative support for this team is accomplished by the assigned field medical assistant and detachment sergeant. The forward surgical team chief must be apprised of ongoing tactical operations, requirements to disestablish, move, and reestablish the surgical facility, status of organization and medical supply/resupply, planning for forward surgical team current and future operations, status of individual and unit training, and status of communications connectivity. As the forward surgical team is dependent upon its supporting medical company and/or hospital for a significant share of its administrative and logistics requirements, continuous coordination is required to ensure that shortfalls in support do not adversely impact patient care.

TRIAGE/PREOPERATIVE RESUSCITATION FUNCTION

3-149. The surgical staff assesses patients as they are received at or by the forward surgical team to determine the extent of injuries and wounds and to identify the required surgical procedures to be performed. Patients are provided emergency treatment if required prior to preparation for surgery. Patients are prepared for surgery by the nursing staff.

INITIAL SURGERY FUNCTION

3-150. Once triaged and prepared for surgery, patients undergo surgery required to render them transportable to the next role of care where more complete and/or extensive surgery can be accomplished. An orthopedic surgeon is available to perform required surgery for injuries of the musculoskeletal system and provides specialized care and consultation on the necessary life- and limb-saving procedures in patients with injuries to the spine and limbs. Clinical nurse anesthetists administer anesthesia during surgery. The forward surgical team is capable of performing two surgeries simultaneously, if required.

POSTOPERATIVE NURSING CARE FUNCTION

3-151. Postoperative nursing care, under the supervision of the surgeon, is provided patients from the completion of surgery, through postanesthesia recovery, and until they are sufficiently stable to withstand the rigors of medical evacuation to the next role of care. Acute nursing care is required by each patient postoperatively, as patients have received life-threatening injuries and may require further medical intervention. Once the patient is stabilized, he is prepared for medical evacuation. When collocated with a medical company, the patient holding squad can provide limited holding for postoperative surgical patients.

EMPLOYMENT OF THE FORWARD SURGICAL TEAM

3-152. Forward surgical teams are normally employed in brigade combat teams on the basis of one per maneuver brigade. They are normally attached to a combat support hospital for general support. When operationally employed, forward surgical teams are attached to medical companies. The forward surgical team may also be a part of a medical task force in support of special operations forces missions.

3-153. On arrival in the AO, the forward surgical team establishes contact with the supporting unit to coordinate its support requirements. They also obtain situational updates and arrange for x-ray, medical laboratory, medical records administration, patient movement items, and operational requirements support.

ESTABLISHING THE SURGICAL FACILITY

3-154. Operationally, the forward surgical team requires less than 1,000 square feet of space (equivalent to one general purpose large tent) to set up and operate in. Tentage for the forward surgical team is a common table of allowances item and may vary from one specific unit to the next. Ideally, the forward surgical team will have a lightweight shelter system with an environmental control unit for heating/cooling which provides clean air ventilation of the surgery area. A mechanism for heating is necessary for

management of expected hypothermia in patients in temperate and cold environments. Clean air ventilation in the operating area is a must for controlling contamination of surgical incisions and sterile supplies.

3-155. The forward surgical team establishes itself in an area selected by the supported medical company (site selection criteria for the forward surgical team is the same as that for the supported unit) and is collocated with the medical company. Once established, the forward surgical team, its vehicles, and generator should be sandbagged. Bunkers should be established for the protection of patients and forward surgical team personnel, as required.

3-156. The forward surgical team sets up based on the type of tentage or shelter systems that are available. The configuration layout of the forward surgical team is normally mission, enemy, terrain and weather, troops and support available, time available, and civil considerations-driven and may be based on the anticipated patient load and the frequency with which they anticipate being displaced. The internal configuration of the surgical facility is at the discretion of the forward surgical team chief and his operational needs.

DISPLACEMENT AND REDEPLOYMENT

3-157. The medical command (deployment support)/medical brigade (support) commander attaches the forward surgical team to brigade combat teams/division headquarters in direct support of medical companies. Normally, the medical command (deployment support)/medical brigade (support) commander issues orders, either verbally or in writing, to the forward surgical team chief. Frequently, the time to respond to orders is short; therefore, the forward surgical team must be constantly prepared to move. It is critical that the forward surgical team have a flexible entry and exit strategy in order to minimize confusion during entry into and withdrawal from the AO. After receiving the commander's guidance, the chief of the forward surgical team and his headquarters element conduct a mission analysis, incorporating changes based on the tactical situation. Once the forward surgical team collocates with a medical company, it may be subject to frequent displacements.

3-158. The forward surgical team is normally attached for a period of up to 72 hours, after which it will normally redeploy to its home-based unit for reconstitution (Role 3 hospital). However, the situation may require them to remain on station and be reconstituted or augmented by additional forward surgical teams.

X-RAY, LABORATORY, AND BLOOD SUPPORT

x-ray Support

3-159. The x-ray support is provided by the supported MTF. The forward surgical team does not have any organic x-ray capability.

3-160. The need for x-rays (especially for patients requiring orthopedic surgery) is normally determined during the assessment phase in the triage/preoperative area. However, x-ray follow-up may be required.

Laboratory and Blood Support

3-161. Clinical laboratory capabilities at the level at which the forward surgical team operates are limited only to those procedures determined to be essential for far forward surgery. These include—

- Blood holding capability: Up to 50 units of Group O positive and negative packed red blood cells.
- Electrolyte level (sodium; potassium; chloride; and carbon dioxide) using a handheld assay.
- Hematocrit determination using microhematocrit capillary tubes and battery-powered centrifuge.
- Urinalysis using dipsticks.
- Blood gas analysis using sensor-based module.

3-162. Nursing personnel perform near-patient testing and perform operator maintenance on medical laboratory equipment according to appropriate technical manuals and/or manufacturer's instructions. Quality control is done by personnel operating the equipment assisted by medical laboratory personnel of the supporting medical company.

3-163. Emergency transfusion of Type O blood is used at this role of care. Typing and crossmatching of blood products must be available to validate the blood type information on the Soldiers' identification tags. For additional information on other blood products authorized for use by the forward surgical team refer to TM 8-227-12.

3-164. Laboratory support that exceeds the organic capability of the forward surgical team is provided by the supported medical company.

3-165. On rapid deployment missions, the basic load of packed red blood cells (liquid) should be ensured for both the forward surgical team and the supporting medical company. The subsequent resupply mechanism is coordinated in advance with the brigade combat team, division headquarters, or supporting medical battalion (multifunctional).

CAUTION

The forward surgical team is specifically configured to perform forward resuscitative surgery. It does not possess the personnel, equipment, or medications to perform sick call. However, during lulls in the operations, if requested to do so, forward surgical team personnel can augment the sick call capabilities of the supported MTF at the discretion of the forward surgical team chief.

PATIENT MEDICAL RECORDS AND DISPOSITION

3-166. Responsibility for patient accountability remains with the medical company. However, the forward surgical team's field medical assistant ensures that all patients received and treated at the surgical facility are properly logged in and out on the forward surgical team's patient registry (Daily Disposition Log). Minimum documentation should include patient identification, diagnosis and treatment, and disposition (date and time). Refer to Army medical doctrine for support of maneuver forces.

3-167. A record of medical treatment is established and maintained for each patient treated by the forward surgical team. These records are transported with the patients when they are evacuated from the forward surgical team to the gaining MTF. Depending upon the operational scenario, the forward surgical team may be required to act as a primary care facility in the absence of a supporting medical company. Although the forward surgical team is neither staffed nor equipped to maintain individual health records, if it functions as a primary care facility, it is responsible for maintaining records on all patient encounters (such as routine sick call or outpatient visits). These records are maintained until the Soldier is transferred from the AO or to another primary care facility. At that time, the records are transferred to the gaining primary care facility. The forward surgical team should coordinate with the supporting personnel element to obtain listings of Soldiers being transferred. Should the forward surgical team determine that a Soldier is no longer present in the AO, the individual health record should be forwarded to the Soldier's home station or mobilization center. For Reserve Component Soldiers whose records are maintained at the U.S. Army Human Resources Command, the records should be forwarded to the Army Reserve Personnel Center for integration into their permanent record. For a detailed discussion on individual health record maintenance and disposition, refer to AR 40-66, AR 40-400, and Army medical doctrine for support of maneuver forces.

Note. The forward surgical team requires augmentation with a medical records capability if it is employed without a supporting medical company.

PROCEDURES FOR MEDICAL EVACUATION OF PATIENTS

3-168. The forward surgical team's recovery area has the responsibility of preparing patients for release to the medical evacuation chain. The evacuation of a patient is initiated by the surgeon according to established unit standard operating procedure. The recovery area coordinates with the supporting medical company for the movement of the patient and ensures that the—

- Medical evacuation request includes requirement for surgical equipment and/or providers.
- Patient is sufficiently stabilized for the anticipated mode and duration of travel.
- Patient's airway and breathing is adequate for movement.
- Patient's intravenous lines, drainage devices, and tubes are fully secured and patent.
- Patient at high risk for barotrauma is considered for prophylactic chest tube placement before prolonged aeromedical evacuation (consult surgeon).
- Heimlich® valves on chest tubes are functioning.
- Foley® catheters and nasogastric tubes are placed and allowed to drain.
- Patient is securely covered with both a woolen and aluminized blanket for air transport, cold environment, and/or postoperative hypothermia.
- Three litter straps are used to secure the patient to the litter.
- Personal effects and all medical records accompany the patient. Personal effects (money, documents, pictures, jewelry, and the like) will be documented by the supported MTF and accompany patients when they are evacuated from the forward surgical team.

3-169. Patients stabilized at the forward surgical team are evacuated by Army medical evacuation platforms to the supporting Role 3 (corps or joint task force) hospital. The Role 3 hospital then assumes responsibility for the patient as the originating MTF for Theater Aeromedical Evacuation System requirements, and completes the necessary documents.

Note. Due to other patients awaiting medical evacuation at the medical company, the brigade surgeon or designee determines the evacuation precedence for all patients. This is done in consultation with the forward surgical team's chief surgeon and/or senior nurse. When a patient is to be evacuated by U.S. Air Force assets, notification of the supporting Theater Patient Movement Requirements Center should be made at the earliest time possible. This enables the Theater Patient Movement Requirements Center sufficient time to coordinate airlift and patient movement item requirements.

DISPOSITION OF REMAINS

3-170. In the event a patient dies while being treated by the forward surgical team, a Department of Defense (DD) Form 1380 (U.S. Field Medical Card) or Department of the Army (DA) Form 7656 (Tactical Combat Casualty Care Card) is completed and then signed by a physician. Coordination is made with the medical company and the deceased is immediately removed from the forward surgical team facility to the supported MTF's temporary morgue area. Refer to Army medical doctrine for additional information on dispositions and remains.

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Chapter 4

Treatment Aspects of Combat and Operational Stress Control

This chapter discusses the treatment aspects of the combat and operational stress control medical function. This chapter establishes Army doctrine and provides guidance for providing neuropsychiatric treatment and treatment for behavioral health disordered patients in an AO. The information provided in this chapter will assist commanders and their staffs to operate efficiently at all levels of command and throughout unified land operations. The preventive aspects of the combat and operational stress control medical function are discussed in-depth in Army medical doctrine which addresses the force health protection mission under the protection warfighting function. This chapter does not discuss the organizational structure and capabilities of combat and operational stress control units but rather focuses on the triage process and differential diagnosis of other medical conditions which may initially present with behavioral health signs and symptoms. Refer to Army medical doctrine for additional information on the organizational structure of deployed combat and operational stress control organizations.

SECTION I — COMBAT AND OPERATIONAL STRESS CONTROL TRIAGE

TRIAGE PROCESS

4-1. The triage process for combat and operational stress control is used to sort Soldiers depending upon the symptoms/needs, capabilities available, and location where they can best be managed in keeping with the combat and operational stress control principles of brevity, immediacy, contact, expectancy, proximity, and simplicity (BICEPS). These principles apply to all combat and operational stress control interventions or activities throughout the AO, and are followed by behavioral health personnel. These principles may be applied differently based on a particular role of care and other factors pertaining to mission, enemy, terrain and weather, troops and support available, time available, and civil considerations.

4-2. Assessment is an evaluation of the Soldier's physical and behavioral health needs, potential medical emergencies, and other safety risks. Assessment is performed by behavioral health personnel according to their professional training, expertise, and standards.

4-3. Disposition is the combat and operational stress control intervention plan to address the needs identified in the assessment. Disposition has two components that include—

- Determining what intervention techniques best address the Soldier's needs and functional capabilities.
- Selecting the best location where the Soldier can be managed. The personnel conducting combat and operational stress control triage should consider the needs, abilities, and the safety of the Soldier. They should also consider the unit's capacity to provide combat and operational stress control interventions based on its mission, resources, response to prior consultations, and willingness to participate in combat and operational stress control interventions.

TRIAGE ALGORITHM

4-4. Like surgical triage categories, combat and operational stress reaction also uses triage categories. Each of the combat and operational stress control triage categories are discussed in detail in the following

paragraphs. The combat and operational stress control triage algorithm presented in Table 4-1 uses some of the triage categories with the exception of the *refer* category. *Refer* category cases are discussed in paragraph 4-10.

Table 4-1. The combat and operational stress control triage algorithm

<table>
<tr><td>Step 1</td><td colspan="5">Is this a medical emergency?</td></tr>
<tr><td></td><td>Yes</td><td>Refer to nearest medical treatment facility.</td><td>No</td><td colspan="2">Go to Step 2.</td></tr>
<tr><td>Step 2</td><td colspan="5">Does the Soldier require medical/behavioral observation?</td></tr>
<tr><td rowspan="3"></td><td rowspan="3">Yes</td><td rowspan="3">Go to Step 3 A.</td><td rowspan="3">No</td><td colspan="2">Does the Soldier have presumptive combat and operational stress reaction or behavioral health disorder?</td></tr>
<tr><td>Yes</td><td>Go to Step 3 B.</td></tr>
<tr><td>No</td><td>Help-in-place</td></tr>
<tr><td>Step 3</td><td colspan="2">A. Can the Role 2 medical treatment facility or combat and operational stress control Soldier restoration center provide adequate evaluation and intervention?</td><td colspan="3">B. Can the Soldier’s unit support the 5 R’s[1] or other treatment interventions?</td></tr>
<tr><td rowspan="3"></td><td>Yes</td><td>Hold[2]</td><td>Yes</td><td colspan="2">Unit</td></tr>
<tr><td rowspan="2">No</td><td rowspan="2">Refer</td><td rowspan="2">No</td><td colspan="2">Is there a suitable support unit?</td></tr>
<tr><td>Yes</td><td>Rest</td></tr>
<tr><td>Step 4</td><td colspan="5">Has the Soldier improved after appropriate duration of intervention? (Use on subsequent triages.)</td></tr>
</table>

Notes:
[1] The term 5 R’s is defined in the glossary.
[2] When deciding between two or more potential Role 2 medical treatment facilities or combat and operational stress Soldier restoration centers, refer the Soldier to the one closest to his unit that meets his combat and operational stress control needs.

TRIAGE CATEGORIES FOR COMBAT AND OPERATIONAL STRESS REACTION CASES

4-5. The following are triage categories that may be used for combat and operational stress reaction cases. The categories of *help-in-place*, *rest*, *hold*, and *refer* cases are discussed below.

HELP-IN-PLACE CASES

4-6. *Help-in-place* is used to identify those cases that do not have severe combat and operational stress reactions or behavioral health disorders. These Soldiers are provided combat and operational stress control consultation and education, as appropriate, and remain on duty. These interactions may occur in any setting (for example, dining facility or workplace). Individual identifying information is not retained or documented. There is no implicit or explicit therapist-patient or therapist-client relationship in *help-in-place* interactions.

4-7. The unit identifies those cases that remain with or return to their original unit, either for full duty with their section/platoon or for light duty with extra rest and replenishment within a headquarters element. This option depends on the unit's mission, resources, and the Soldier's symptoms. Personnel performing triage must, therefore, be familiar with the unit's situation and take that into account. When the Soldier's condition improves, the Soldier and/or unit may not feel that additional triage is necessary.

REST CASES

4-8. *Rest* identifies those cases that are provided rest and replenishment in a nonmedical support unit, usually one that is in support of their unit. These Soldiers do not require close medical or behavioral health observation or treatment. They are unable to return immediately to their own unit either because their unit cannot provide an adequate environment for the 5 R's; or transportation is not available for at least a day; or the 5 R's can best be coordinated from the nonmedical support unit. This option depends on the resources and mission of the available movement and maneuver units, as well as on the Soldier's symptoms. The Soldier's unit must designate an individual within the unit to assist the Soldier and ensure that the 5 R's are provided. The unit must provide or arrange for transportation to return the Soldier to his original unit. When the Soldier's condition improves and he is returned to his unit for duty, the Soldier and unit may or may not feel that additional triage is necessary.

HOLD CASES

4-9. *Hold* refers to those cases that require close medical/behavioral health observation and evaluation at a Role 2 MTF or combat and operational stress control Soldier restoration center because the Soldier's symptoms are potentially too disruptive or burdensome for any available sustainment unit or element. The Soldier's symptoms may be caused by a behavioral health disorder that could suddenly turn worse and require emergency treatment. The Role 2 MTF or combat and operational stress control Soldier restoration center must have the capability to provide the necessary medical observation, diagnostic tools, and adequate stabilization for emergency treatment. When deciding among capable Role 2 MTFs or combat and operational stress control Soldier restoration centers, refer the Soldier to the one closest to his unit that meets his combat and operational stress control needs. Assessment of closeness considers speed and reliability of transportation to and back from the MTF or Soldier restoration center. Consider transferring to another Role 2 MTF or combat and operational stress control Soldier restoration center with increased capabilities before changing a Soldier's triage category to *refer*. All *hold* cases will be triaged again by behavioral health personnel or other trained medical personnel after they have been placed in this category. Refer to Army medical doctrine for additional information on the combat and operational stress control Soldier restoration center.

REFER CASES

4-10. *Refer* cases are similar to the *hold* cases, except that *refer* cases are too disruptive and burdensome for the MTF or the combat and operational stress control Soldier restoration center that is not resourced to care for this particular type of case. The MTF or combat and operational stress control Soldier restoration center cannot provide the necessary level of diagnostic and treatment capabilities. *Refer* cases requiring care at a combat and operational stress control reconditioning center, a Role 3 MTF, or possible evacuation out of the theater, will be triaged by behavioral health or other trained medical personnel prior to being transferred to these facilities. For a discussion of the combat and operational stress control reconditioning center, refer to Army medical doctrine for additional information on the combat and operational stress control reconditioning center.

TRIAGE PERSONNEL

4-11. All behavioral health personnel participate in the triage process according to their professional training, experience, and standards. Familiarization training among behavioral health disciplines extends the effectiveness of all behavioral health personnel in triage skills. Medical care providers must be mentored to use the combat and operational stress control triage process. A commander, without consulting BH personnel, providing the 5 R's and placing a Soldier in a support unit for a temporary break does not equate to the Soldier undergoing combat and operational stress control triage.

TRIAGE CONSIDERATIONS

4-12. Triage should be initiated when the—

- Soldier is a self-referral.
- Chaplain has referred the Soldier.
- Medical personnel have requested a combat and operational stress control consultation and referred the Soldier.
- Unit member/buddy has referred the Soldier.
- Leader has requested an informal referral.
- Soldier is a command-directed referral (see DODD 6490.1 and DODI 6490.4).
- Combat operational stress control personnel observe a Soldier's behavior which indicates possible combat and operational stress reaction or a behavioral health disorder.

4-13. Factors that influence an assessment may vary in depth and duration due to several other factors. These factors may include the—

- Referral source.
- Nature of the complaint.
- Observed needs.
- Medical/psychiatric history.
- Availability of resources.
- Amount of privacy for conducting assessment.
- Environmental conditions.
- Professional training of the person making the assessment.
- Command interest.
- Soldiers' cooperation.

Note. Regardless of these factors, behavioral health personnel are responsible for conducting the assessment in a timely manner with professional standards of practice.

DOCUMENTATION

4-14. An assessment is documented according to AR 40-66 whenever the Soldier—

- Is diagnosed with a behavioral health disorder.
- Has a condition (or suspected condition) requiring emergency medical evaluation or treatment.
- Is prescribed psychotropic medication.
- Is assessed to be a high safety risk (for example, homicidal or suicidal, cognitive impairment, substance abuse, and/or impulsivity).
- Requests that documentation of his assessment be made in his medical records.
- Is evacuated beyond a Role 2 MTF or Soldier restoration center for further assessment or treatment.
- Is command-referred for a behavioral health evaluation.

TRANSFER AND EVACUATION

4-15. All behavioral health personnel are responsible for knowing the transfer/evacuation policies and procedures within their AO. Policies and procedural information are available through the command surgeon, medical regulating officer of the senior medical headquarters, or supporting Role 3 MTF. All relevant background and/or clinical documentation must accompany the Soldier during the transportation or evacuation process.

MODE OF TRANSPORTATION

4-16. Nonambulance transport is the preferred mode of transportation for combat and operational stress reaction and nonurgent behavioral health cases. Examples of nonambulance transportation include the Soldier's unit vehicles, and supporting supply/logistics vehicles. Ambulances convey patient status on Soldiers and often must be reserved for medical emergencies. Under the provisions of the Geneva Conventions, ambulances must be used exclusively in the performance of humanitarian duties, therefore, they cannot be used to return Soldiers to duty and transport must be provided by the supported unit. Neuropsychiatric and behavioral health disorder patients are normally evacuated using ambulances and not nonmedical vehicles of opportunity.

ESCORTS

4-17. Depending on a Soldier's condition, an escort (either medical or nonmedical) may be necessary to provide safety, monitoring, and accountability during transportation or evacuation. The escort should be a noncommissioned officer or officer of equal or greater rank/grade as that of the escorted Soldier. Escorts must be emotionally mature, responsible, and capable of conducting their escort duties. Frequently escorts carry the Soldier's clinical documentation to the destination MTF. The attending physician at the originating medical facility will determine and administer any medications and/or restraints required prior to evacuating the patient. (See paragraph 4-47 below.)

FEEDBACK

4-18. Good communication is essential for effective continuity of care during the transportation/evacuation process. The Soldier's unit must be informed about his location and status throughout the process. The originating medical facility must provide sufficient documentation about the Soldier's condition, history, and administered interventions. The destination medical facility must provide feedback to the originating medical facility regarding receipt of the Soldier and his documentation.

SECTION II — PRECAUTIONS AND DIFFERENTIAL DIAGNOSTIC PROBLEMS ASSOCIATED WITH COMBAT AND OPERATIONAL STRESS CONTROL TRIAGE

PRECAUTIONS FOR COMBAT AND OPERATIONAL STRESS CONTROL TRIAGE

4-19. Medical emergencies must be identified during combat and operational stress control triage. Medical emergencies consist of physical illnesses or injuries and/or behavioral health disorders that can result in permanent injury, disability, or death. Early identification of a medical emergency avoids unnecessary delay in treatment. Medical emergencies can cause emotional and/or behavioral health changes and may resemble combat and operational stress reactions in presentation. The following conditions and behaviors could be medical emergencies. Therefore, it is important to ensure medical examinations and disposition of Soldiers are completed when they display the following conditions:

- Psychosis.
- Mania.
- Alcohol withdrawal.
- Substance intoxication.
- Delirium.
- Suicidal gesture, attempt, or high risk for suicidal behavior.
- Catatonia.
- Significant paralysis, partial or incomplete paralysis, and/or sensory loss.

4-20. Assessing for physical illnesses or injuries is a critical part of combat and operational stress control triage. The behavioral health personnel must always consider physical illnesses or injuries that resemble

combat and operational stress reactions or behavioral health disorders. Physical illnesses or injuries may not reach the threshold of a medical emergency, but must be recognized and appropriately treated. Assessing for physical illnesses or injuries requires an adequate review of body systems and a quick physical examination. The examination includes vital signs, examination of head, eyes, ears, nose, throat, chest, abdomen, and extremities with simple testing of reflexes and muscle strength. In field situations (Roles 1 and 2), negative or normal findings need to be documented on DD Form 1380 and/or DA Form 7656. Refer to AR 40-66 for detailed information on patient accountability and management of individual health records. Any positive findings from the physical examination must be evaluated further. If the examiner has not checked various body systems, it is not reassuring to tell a Soldier that his physical or behavioral health complaints are only combat and operational stress reactions. All behavioral health personnel should receive familiarization training on basic medical examination techniques and in documenting medical information. Whenever a physical illness or injury is suspected, personnel should consult with their medical peers for further assistance. Some cases will require direct medical examination by a physician or physician assistant. The behavioral health personnel should not order tests or procedures that do not directly influence case management. Medical tests may promote the patient role in the mind of the Soldier. Needless tests may delay a Soldier's return to duty and encourage secondary gains.

DEFER DIAGNOSIS OF BEHAVIORAL DISORDERS

4-21. During assessment, behavioral health personnel must always consider behavioral health disorders that resemble combat and operational stress reactions, but defer making the diagnosis. The behavioral health personnel favor this default position to preserve the Soldier's expectations of normalcy (according to BICEPS). This is also done to avoid stigma associated with behavioral health disorders and to prevent the Soldier identifying with a patient or sick role. Deferral is also preferred because some diagnoses require extensive medical history collection or documentation that is unavailable during deployment situations (such as personality disorders and attention deficit hyperactive disorder). It is possible that a Soldier can have a combination of combat and operational stress reactions, behavioral health disorders, and physical illnesses/injuries (such as mild traumatic brain injury) at the same time. In such cases, behavioral health personnel must rely on their clinical experiences, training, and consultation with peers and medical personnel to distinguish among these sometimes overlapping conditions. Physical injuries/illnesses are treated at an MTF, however, the Soldier may return for further combat and operational stress control interventions and activities. Deferral of diagnosis is preferred, but diagnosis can be considered if the Soldier—

- Presents for reemerging symptoms of a previously diagnosed and/or treated behavioral health disorder.
- Presents for refill prescription of psychotropic medication.
- Has a medical condition or behavioral health disorder listed above in paragraph 4-19.
- Is enrolled in a reconditioning program.
- Fails to improve after having received four to five days of continuous combat and operational stress control interventions and activities in a *hold* (paragraph 4-9) or *refer* (paragraph 4-10) status.
- Requires individual behavioral health treatment.
- Is referred for multiple episodes of combat and operational stress reaction.

DIAGNOSTIC CONSIDERATIONS FOR DIFFERENTIAL DIAGNOSTIC DISORDERS

Low-Grade Environmental or Stress-Related Illnesses

4-22. Low-grade environmental or stress-related disease and nonbattle injuries/illnesses can drain the Soldier's strength and confidence. For example, chronic diarrhea and slight fever may exhaust, demoralize, and contribute to combat and operational stress reactions among Soldiers. These conditions should be treated medically, concurrently with physical replenishment, rest, reassurance, and organized activities, which restore the Soldier's confidence. If they persist in spite of rest and symptomatic treatment, a more aggressive workup and treatment may be indicated.

Dehydration

4-23. Dehydration deserves special mention because it can be very insidious. Soldiers under combat or heavy work conditions can become extremely dehydrated without feeling thirsty. This is especially likely in CBRN protective equipment or in a desert/arctic environment. Refer to Army doctrine for additional information on the prevention and first aid measures for dehydration.

Hyperthermia

4-24. Hyperthermia (overheating) in an otherwise healthy individual often first causes mild elation and excessive energy. This may be followed by irritability, disorientation, and confusion. When core body temperature climbs above 106 degrees Fahrenheit (ºF) or 41 degrees Celsius (ºC), the Soldier may become belligerent, combative, and have visual hallucinations. If brain temperature rises further, the Soldier collapses and convulses in heatstroke. Refer to Army medical doctrine for additional information on the prevention and first aid measures for heat injuries.

Hypothermia

4-25. Hypothermia may cause an individual to become disoriented when core body temperature falls below 95ºF (34.6ºC). The person may move and speak slowly. His skin looks and feels warm, leading him to take off clothing. He becomes disoriented, then unresponsive, and may appear to be dead. Hypothermia is as likely in cool or even warm, wet climates as it is in extremely cold ones. Refer to Army medical doctrine for additional information on the prevention and first aid measures for hypothermia.

Overuse Syndromes

4-26. Overuse of muscles, joints, and bones that have not been prepared for the strain of field duties can lead to persisting stiffness, pain, swelling, and orthopedic injuries. If severe, these injuries may require evacuation to a hospital for evaluation. Even if these injuries are avoided, the unfit person who overexerts has days of stiffness, aching, and weakness. Such cases are likely to develop combat and operational stress reactions if further demands are made on them.

Rhabdomyolysis

4-27. Rhabdomyolysis is one potentially dangerous complication of severe muscle overuse (and of heatstroke or crush injuries) in which myoglobin from damaged muscle cells injures the kidneys. It can cause fatigue, seizures, muscle tenderness, and muscle aches. A warning sign is dark (tea-colored) urine, but without laboratory testing, this is not easily distinguished from the concentrated urine of dehydration.

WARNING

Rhabdomyolysis is a medical emergency.

Mild Traumatic Brain Injury/Concussion

4-28. Mild traumatic brain injury (mTBI)/concussion may stun the individual and cause amnesia, residual confusion, and/or impulsive behavior. For any case of suspected head trauma or for any case of significant memory loss (especially for a discrete period of time), check scalp, eyes, ears, nose, signs and symptoms of cranial nerve abnormalities, and vital signs. If a head injury is suspected, monitor mental status and vital signs periodically, especially respiration, even though physical findings are negative. Awaken the Soldier periodically to check mental status and pupil size (allowing sufficient time to recover from any grogginess on awakening). Continuous monitoring is appropriate if there are serious concerns about the risk. Refer to Appendix C for additional information on mTBI.

WARNING

Cases with deteriorating mental status are medical emergencies. If one pupil becomes larger than the other, it is an extreme emergency requiring immediate hospitalization. Left untreated, the condition can progress rapidly to coma and respiratory arrest within hours.

Spinal Cord Trauma

4-29. Pressure, bruising, and hematomas of the spinal cord, as well as severing of the spinal cord, can cause spinal shock, with loss of sensory and/or motor functions below the level of the injury in the affected dermatome and muscle group patterns. The loss of function may be bilateral, unilateral, or partial. These cases could be confused with paralysis or sensory loss presentations of combat and operational stress reaction. Further manipulation of a fractured spine can worsen or make permanent the spinal cord damage. Information from the history of onset, a cautious physical and neurological examination, or complete relief of symptoms following hypnosis or strong positive suggestions could demonstrate convincingly that this is only a combat and operational stress reaction. It is best to be cautious and keep the spine immobile during care and transportation.

Postconcussion Syndromes

4-30. Postconcussion syndromes may persist weeks to months beyond the period of acute concussion (mTBI). Postconcussion syndromes may include perceptual or cognitive impairment, poor impulse control, and difficulty in planning ahead. These are often accompanied by cranial nerve deficits or soft neurological signs.

Abdominal Trauma

4-31. Ruptured spleen or other intraperitoneal bleeding may cause shock. The Soldier may arrive in a fetal position and be unresponsive but have reflex guarding due to peritonitis.

Air Emboli and Focal Brain Ischemia

4-32. High blast overpressures from incoming high explosive ordnance can produce air emboli (bubbles in the blood) and focal brain ischemia (small areas in the brain which cannot get oxygen because the blood flow has been interrupted). Nuclear explosions can do this, as can high explosives when shock waves are magnified by reflection within bunkers, buildings, and trenches. Ruptured eardrums, general trauma, and evidence of pulmonary damage should be detectable. Cases may have stroke symptoms (loss of muscle strength, loss of sensation in parts of the body, and/or speech disturbances), which may be subtle and mistaken for combat and operational stress reaction.

Laser Eye Injury

4-33. Laser range finders/target designators cause small burns on the retina if they shine directly into the eye, even at great distances and especially if viewed through optics. If the laser beam causes a small retinal blood vessel to bleed inside the eyeball, the person will see red. If blood inside the eye is confirmed on examination, the Soldier should be evacuated to a MTF with verbal reassurance that he may return to duty soon. If the laser does not hit a blood vessel, the Soldier may see only flashes of light, followed quickly by some painless loss of vision. If the laser damages areas of the eye responsible for peripheral vision, the Soldier may never recognize a visual deficit. If the Soldier was looking directly at the laser source however, there will likely be a major loss of visual clarity. With simple retinal burns in the retina's periphery, most of the visual symptoms recover with hours to days of rest, reassurance, and nonspecific treatment the same as with combat and operational stress control reaction. Calm, professional treatment at each role of medical care should emphasize that the injury is not vision-threatening and the chances for

some, if not total, recovery is good. Soldiers with the simple retinal burns should provide self-care to decrease the risk of assuming a patient mind-set and to promote their chances of returning to duty. For additional information on the management of laser eye injuries, refer to Army medical doctrine on laser eye injuries.

Middle Ear Injuries/Diseases

4-34. Temporary loss of hearing can be caused by a decreased acoustic sensitivity following a brief extremely intense noise (explosive) or less intense, longer duration noise. Tinnitus (ringing in the ears) can also result from acoustic nerve damage or irritation, as well as from high doses of certain drugs, such as aspirin. Distinguishing physiologic from psychogenic hearing loss may require consultation with an otolaryngologist (ears, nose, and throat specialist).

Peripheral Neuropathies

4-35. Peripheral neuropathies include compression neuropathies, which are especially likely in military settings (for example, *rucksack palsy*). Depending on severity, they may require temporary job reclassification during convalescence. As these injuries are not life-threatening, a hasty diagnosis should not precede a trial of Soldier restoration treatment.

Uncommon Endemic Neurologic Disorders

4-36. These physical diseases can first manifest with cognitive emotional and/or behavioral symptoms. A comprehensive neurological examination is required for the definitive diagnoses. Examples include—

- Guillain-Barre Syndrome which manifests with muscle paralysis, usually without sensory loss, which ascends the legs and arms, then the trunk, over hours to days. It is sometimes triggered by immunizations, as might be given to troops deploying overseas. It often progresses to a life-threatening situation as the muscles of respiration become involved. This requires evacuation to the CONUS-support base. Fortunately, recovery is usually complete, but it may take months to years.
- Multiple sclerosis which is a disease that can mimic many types of combat and operational stress reactions and behavioral health disorders with its sometimes transitory, shifting motor, sensory, speech, and cognitive/emotional symptoms. It is made worse by stress and may be difficult to diagnose. Once confirmed, multiple sclerosis cases should be evacuated to CONUS, as should other rare, progressive diseases like Lou Gehrig's disease (amyotrophic lateral sclerosis).
- True convulsive seizure which can manifest after head injury or a sublethal or chronic nerve agent exposure. These are treated with normal anticonvulsant medications. Fear of nerve agent exposure may lead some Soldiers to experience psychogenic seizures. These psychogenic seizures are also called pseudo-seizures. In addition to falling unconscious and convulsing, urinary and fecal incontinence can occur during a pseudo-seizure.

SUBSTANCE ABUSE/DEPENDENCE

ALCOHOL

4-37. Substance abuse is an example of misconduct stress behaviors and not necessarily combat and operational stress reactions. Drug and alcohol abuse may occur in active combat zones and nearby areas where use is explicitly prohibited and severely punished. Personnel performing the combat and operational stress control assessment should be familiar with evaluation and treatment of substances abuse and dependency. Behavioral health providers should consider the following:

- Heavy habitual use of alcohol, even by otherwise capable officers and noncommissioned officers, may go unnoticed in peacetime. However, alcohol abuse may degrade necessary mission performance demanded by combat and may result in withdrawal symptoms when access to alcohol is interrupted. Alcohol withdrawal is a potential medical emergency; consultation with medical personnel is essential.

- Intoxication or withdrawal from alcohol, barbiturates, and tranquilizers may be mistaken for combat and operational stress reaction or another behavioral health disorder. Intoxication or withdrawal requires medical treatment. Withdrawal seizures or impending or ongoing delirium tremens need emergency medical treatment.

OVERUSE OF STIMULANTS

4-38. Stimulants may cause panic attacks, hyperactivity, mania, rage attacks, psychosis, or paranoia. Cessation of amphetamines after prolonged use causes a crash characterized by extreme sleepiness, lethargy, overeating, depression, and suicidal thinking. This condition may require one to two weeks of hospitalization to assure safe recovery.

HALLUCINOGENIC DRUGS

4-39. Hallucinogenic drugs cause sensory distortion, panic, bizarre thoughts, and potentially dangerous behaviors. These drugs may be employed by the enemy as chemical or biological warfare agents. Phencyclidine hydrochloride (PCP) is especially problematic since it also blocks pain and tends to make those under its influence paranoid, violent, and abnormally strong. Hallucinogenic drug psychosis should not be treated with antipsychotic drugs. Physically restrain and sedate patients as necessary.

INHALATION OF FUMES

4-40. Inhalation or huffing of fumes (either by accident or as deliberate abuse) and carbon monoxide poisoning can cause disoriented and abnormal behavior. Supportive treatment and specific antidotes/medication may be needed.

ANTICHOLINERGIC DELIRIUM

4-41. In combat, atropine delirium may occur. Soldiers are equipped with atropine injectors to use as first aid against nerve agents. Two milligrams (mg) (one atropine injector) without nerve agent challenge can cause rapid pulse, dry mouth, slightly dilated pupils, decreased sweating (hot, dry, and flushed skin), and urinary retention. In some individuals, 6 mg of atropine (equal to three atropine injectors) may cause hallucination and disorientation in the absence of a nerve agent challenge. Such side effects may be more pronounced in sleep-deprived Soldiers. Overheated Soldiers are more susceptible to the atropine side effects. Atropine compounds the complications of overheating by diminishing the body's ability to lose heat through sweating. One dose (2 mg) of atropine can reduce the efficiency of heat-stressed Soldiers. Two doses (4 mg) will sharply reduce combat efficiency, and 6 mg will incapacitate troops for several hours. Some plants can also cause anticholinergic delirium when eaten.

ANTICHOLINESTERASES

4-42. A nerve agent is an anticholinesterase similar to many insecticides. Low-dose nerve agent exposure may produce miosis (pinpoint pupils) without other signs. Miosis decreases vision except in very bright light and may cause eye pain when attempting to focus. This miosis may take hours to days to improve spontaneously, depending on the degree and type of exposure. Evidence gathered from farm workers poisoned by insecticides suggests that mild personality changes, insomnia, nightmares, and chronic persistent depressive symptoms may be seen even after use of an antidote. Low-dose nerve agent exposure may lower the seizure threshold of many Soldiers. True epileptic seizure cases must be distinguished from those Soldiers who may have pseudo-seizures.

BEHAVIORAL HEALTH DISORDER PATIENTS IN THE AREA OF OPERATIONS

PRIMARY BEHAVIORAL DISORDERS

4-43. Primary behavioral health disorders (especially schizophrenic-form/schizophrenic disorder, major depression, and bipolar disorder) will continue to occur at approximately the same rate as in peacetime. Some Soldiers may hide their disorders by receiving care through civilian channels. Once in the theater they may experience a relapse or self-refer to an MTF when their medication supply is exhausted.

PERSONALITY DISORDERS

4-44. Preexisting personality disorders may make a Soldier unable to adapt to military life. However, studies have failed to show a relationship between personality disorders and the likelihood of breakdown in combat. Once Soldiers with personality disorders have developed a combat and operational stress reaction or a behavioral health disorder, they may have greater difficulty recovering and returning to duty. Diagnosis should never be made in haste; diagnostic criteria must be supported with adequate historical information.

SECTION III — COMBAT AND OPERATIONAL STRESS CONTROL STABILIZATION

EMERGENCY STABILIZATION

4-45. Emergency stabilization is the acute management of disruptive behavior resulting from combat and operational stress reaction and/or a behavioral disorder. The disruptive behavior severely impacts unit functioning by posing a danger to self and/or others. In some cases, an underlying medical condition leads to the disruptive behavior and may present an additional threat to the Soldier's life. Emergency stabilization consists of interventions that temporarily reduce a disturbed Soldier's threat to self or others, thereby allowing further medical evaluation and/or treatment. Some behavioral disorders are associated with violent behavior, such as psychotic disorders, bipolar manic disorders, antisocial personality disorder, and borderline personality disorder. Violent behavior is also associated with disruption of brain functioning due to organic factors such as intoxication, hyperthermia, metabolic imbalance, or CBRN exposure.

4-46. The combat and operational stress control triage process will be repeated throughout the emergency stabilization and will determine the disposition of the Soldier. After emergency stabilization, subsequent triage could result in an immediate return to duty, transfer to a combat and operational stress control Soldier restoration program for observation, or further evacuation.

METHODS USED FOR EMERGENCY STABILIZATION

4-47. Methods that may be used for emergency stabilization include—

- Providing verbal reassurance and reorientation. These are the best methods for controlling an agitated or disruptive Soldier. If these fail, a nonthreatening show of strength or force may suffice or sedating medications may be offered to the Soldier. If all other means fail to reduce the threat to self and/or others, physical restraint must be considered. Given the risk for violence, it is inadvisable to attempt the subdue/restraint method one-on-one.
- Applying physical restraints. This is reserved for subduing and restraining agitated or disruptive Soldiers who fail to respond to safer and less restrictive forms of restraint (for example, verbal warnings or show of strength). Placing a disturbed Soldier into physical restraint increases the risk of injury to the Soldier and restraint team. Prolonged or improper application of physical restraint can cause injury to the disturbed Soldier. Given the potential for injury, it is paramount that behavioral health personnel receive training in proper physical restraining methods as they

may be required for safe evacuation by ground medical evacuation (preferred) or air medical evacuation.

- Chemical restraints (such as medication). These can be administered to a disturbed Soldier to reduce the risk of harm to self or others. Medication may be offered to the Soldier in conjunction with verbal reassurances and reorientation. Chemical restraints may only be ordered by a medical professional who is authorized to prescribe medication when a Soldier is incompetent to make medical decisions for himself and/or when the Soldier's behavior places himself or others in danger. Once administered, medical personnel must observe for side effects and adverse reactions and must consider administering additional medications as needed. When a Soldier is in physical restraints, medication may no longer be essential, but may serve to reduce the risk of escape, limb damage, and overheating. As a secondary benefit, once the medications reduce the Soldier's agitation, others in the vicinity may feel safer and calmer. Before prescribing an antipsychotic medication, there are a few things to consider. First, some antipsychotic drugs may take several hours or days to take effect. Second, early administration of an antipsychotic drug may confuse the clinical picture for the next evaluator in the evacuation chain. The recommendation for most cases is to use no medication unless it is truly necessary for management.

4-48. Regardless of the method, the restrained Soldier must be checked frequently to guard against nerve injuries or impaired circulation, which may lead to skin ulcers or gangrene. It is important to check periodically to ensure the Soldier is not secretly escaping from restraints. The Soldier is provided verbal reassurances with positive expectations for his recovery each time he is checked.

FULL STABILIZATION

4-49. Full stabilization is normally the mission of the Role 3 MTF specialty clinic's psychiatric service. Full stabilization goes beyond securing the safety of the Soldier and those around him. It provides a safe environment for the Soldier to receive treatment interventions, continued evaluation, and assessment for return to duty potential. If return to duty within the evacuation policy is not feasible, the full stabilization process helps to prepare the patient for a safe, long-distance evacuation. If a Role 3 MTF is not available, full stabilization may be accomplished by behavioral health personnel when appropriately supported or by using equipment diverted from the combat and operational stress control Soldier restoration capability. Considerations for full stabilization may include—

- Conducting full stabilization for neuropsychiatric patients is desirable for the sake of the Soldier's future treatment and for the potential of returning some Soldiers to duty. However, full stabilization is personnel-intensive with a relatively low return to duty payoff. Providing only sufficient stabilization to allow evacuation from the AO may be acceptable in order to maintain the other combat and operational stress control functions.
- Ensuring appropriate timely evacuation of Soldiers with neuropsychiatric/behavioral disorders according to the theater evacuation policy. It is preferred that full stabilization is achieved for all neuropsychiatric patients to facilitate appropriate and timely evacuation according to the theater evacuation policy.
- Assessing and triaging of combat and operational stress reaction Soldiers undergoing full stabilization. This is an ongoing process. In subsequent triages, if a Soldier becomes stable and has the potential for return to duty, he may be transferred to a combat and operational stress control Soldier restoration or reconditioning program, or may be returned to duty directly.

TENETS OF FULL STABILIZATION

4-50. The combat and operational stress control full stabilization includes ongoing evaluation of return to duty potential. This requires assessment of mental status and performance capability overtime without excessive drug effects or limitation on activity. Contact with the Soldier's unit may be needed to get information on prior history and functioning. The further from the unit the Soldier has been evacuated, the more difficult it may be to contact the Soldier's unit. Full combat and operational stress control stabilization normally takes several days. To the extent compatible with safety, the stabilization program

should adhere to the principles and methods for treating combat and operational stress reactions and behavioral disorders (such as BICEPS and 5 R's).

4-51. During full stabilization, special efforts should be made to maintain and reinforce the Soldier's identity as a Soldier. Techniques that may be helpful in maintaining the Soldier mind-set include—

- Keeping Soldiers in duty uniform, not pajamas, as soon appropriate.
- Maintaining rank distinctions and appropriate military courtesy.
- Encouraging self-care and helping behaviors.
- Engaging in military work activities appropriate to the Soldier's level of function and military occupational specialty/area of concentration.

4-52. Initial and ongoing assessments are essential to tailor the treatment to the Soldier's individual needs. It is essential that clinical documentation is available for these assessments. The Soldier's condition is an evolving one and must be monitored throughout full stabilization. If the Soldier is assessed as capable to return to duty, efforts should be made to return the Soldier to duty as soon as is practical.

4-53. Ongoing treatment and/or therapeutic modalities are essential to improving a Soldier's chances to return to duty whether in the AO or after evacuation. Therapeutic modalities are similar to those used on inpatient units, but must remain consistent with combat and operational stress control principles. These modalities include medication, individual psychotherapy, group psychotherapy, and appropriate therapeutic occupations. Observed responses to therapeutic modalities allow informed recommendation for return to duty status.

FULL STABILIZATION FACILITIES

4-54. Full stabilization is commonly conducted in the combat support hospital. The combat support hospital can provide more sophisticated procedures, laboratory, and x-ray capabilities than are available at a Role 2 MTF. If a medical detachment (combat and operational stress control) is providing emergency or full stabilization, the Soldier must be kept separate from other Soldiers in combat and operational stress control Soldier restoration or reconditioning programs.

4-55. If the combat support hospital cannot provide sufficient inpatient psychiatric treatment for Soldiers requiring stabilization and preparation for evacuations, the AO combat and operational stress control consultant may recommend up to two temporary courses of action until the shortfalls resolve. He can recommend to the higher medical headquarters that behavioral health personnel from one or more medical company (combat and operational stress control) augment the Role 3 MTF psychiatric service until the caseload decreases or until replacements or additional behavioral health personnel are brought into the AO or the MTF. Lastly, the senior medical headquarters may direct that a combat and operational stress control Soldier restoration or reconditioning asset be collocated with the Role 3 MTF to provide an *overflow* ward, as well as augmenting staff.

4-56. The combat support hospital has a psychiatrist, a psychiatric/behavioral health nurse, one behavioral noncommissioned officer, and one behavioral health specialist assigned to provide clinical services and patient care. The hospital does not have an organic neuropsychiatric ward. Neuropsychiatric patients are normally admitted to an intermediate care ward for emergency or full stabilization, although a few with serious medical complications could require admission to the intensive care ward. An intermediate care ward may be temporarily designated as a neuropsychiatric ward to accommodate patient care requirements. The ward may require additional staffing augmentation from a medical detachment (combat and operational stress control).

4-57. Full stabilization facilities in the AO can be categorized into two types:

- Mobile facilities which use general purpose large or medium tents as used in the medical detachment (combat and operational stress control). They can also use a combat support hospital or a DEPMEDS TEMPER tent as used in a combat support hospital.
- Fixed facilities which use buildings that were previously hospitals or buildings converted to hospitals.

4-58. The adaptation of these facilities have both advantages and disadvantages that include—

- The climate control capability of the (hospital) TEMPER tents, as assembled into DEPMEDS hospitals. This may be a significant safety advantage for treating seriously disturbed patients in restraints with high-dose medication, which can disrupt the body's ability to regulate normal body temperature. The TEMPER and standard tents both pose greater problems for security than do fixed facilities. The staff may, therefore, have to rely more than is ideal on physical restraints and medications for sedation of some cases. Blankets or screens can be used to isolate or segregate problem patients from others. Such partitions reduce mental contagion but provide little true protection.
- Standard hospital beds which are on high, lightweight metal legs with wheels. For full stabilization purposes, these should be replaced with standard low, stable cots to hold strong, agitated patients in restraints. The cots also make a more *military* setting and can be used as seats for group activities.
- A separate *closed* (high security) and *open* (moderate/minimal) security area. The latter could be a standard general purpose large tent. Hospital personnel could be provided with additional training in supervision and military group activities for the moderate/minimum security cases.

SECTION IV — BEHAVIORAL HEALTH TREATMENT

BEHAVIORAL HEALTH CARE

TREATMENT FOR BEHAVIORAL HEALTH DISORDERS

4-59. Behavioral health treatment exists when there is an explicit therapist-patient or therapist-client relationship. Behavioral health treatment is provided for Soldiers with behavioral health disorders to sustain them on duty or to stabilize them for referral/transfer. This is usually brief, time-limited treatment as dictated by the operational situation. Behavioral health treatment includes counseling, psychotherapy, behavior therapy, occupational therapy, and medication therapy. Treatment assumes an ongoing process of evaluation and may include assessment modalities such as psychometric testing, neuropsychological testing, laboratory and radiological examination, and behavioral health providers' discipline-specific evaluations.

BEHAVIORAL HEALTH TREATMENT PROTOCOLS AND MEDICATIONS

BEHAVIORAL HEALTH TREATMENT FOR SOLDIERS

4-60. Behavioral health treatment is provided to Soldiers with diagnosed behavioral health disorders and who require more intentions for their diagnoses. It is both inappropriate and detrimental to treat Soldiers with combat and operational stress reactions as if they are behavioral health disordered patients. A therapeutic relationship may promote dependency and foster the *patient* role. Likewise, medication therapy and the highly structured treatment modalities imply the *patient* role. Medication for transient symptom relief (insomnia or extreme anxiety) may not be detrimental if there is no expectation that medication will continue to be prescribed.

STANDARDS OF TREATMENT

4-61. Treatment standards are the same in the deployed environment as in garrison. When operational requirements dictate that clinical standards of treatment/care are waived or relaxed, it must be approved by the AO combat and operational stress control consultant. Treatment should be tailored to the anticipated availability of the Soldier and behavioral health provider. Short-term interventions are more practical than long-term commitments. If longer term treatment is necessary, design the intervention in time-limited modules. Under no circumstances should treatment diminish the Soldier's ability to provide self-care and to defend himself. Exceptions include emergency stabilization and preparation for evacuation. In addition, the Department of Veterans Affairs (VA)/DOD Clinical Practice Guidelines website

(http://www.oqp.med.va.gov/cpg/cpg.htm) offers clinicians evidence-based assessment and treatment algorithms for acute stress disorder, posttraumatic stress disorder, and many other behavioral health disorders.

ARMY REGULATIONS GOVERNING EVALUATIONS

4-62. Fitness for duty evaluations are conducted as necessary within the priorities of the supported commanders according to AR 40-501; psychiatrists should not initiate a medical evaluation board without first ensuring the Soldier has received adequate treatment. This treatment may not be available in AO. Command-directed evaluations are conducted as necessary within the priorities of the supported commanders according to DODD 6490.1. Clinical documentation should be safeguarded according to AR 40-66 and local command policy. Treatment should be conducted in a location that is as private as possible. Information can be released to a third party if the Soldier consents. Combat and operational stress control providers need to notify command when the Soldier's safety is in question (suicidal, homicidal) or if the Soldier is removed from his unit for medical observation. Additional release of information to command is on a need-to-know basis. For any questions on release of information on combat and operational stress reaction and neuropsychiatric patients, consultation with supporting judge advocate general's office is advised. Also, maintaining the Soldiers health record with clinical data is required and accomplished according to AR 40-66 and supplemental AO policy as appropriate. Treatment should occur throughout the evacuation process and follow-up is expected at home station.

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Chapter 5

Treatment Aspects of Dental Services

The Soldier as the centerpiece of the U.S. Army is the basic guarantor of mission success. As such, his health and physical fitness are vitally important. Equally important is the Soldier's oral and dental health, which if not properly maintained can result in the Soldier becoming nondeployable, and if already deployed, can render him nonmission-capable.

There are many reasons why a Soldier's oral and dental health can break down. This is especially true while a Soldier is deployed. There are a number of causes which can contribute to a decline in a Soldier's oral and dental health. Some of the more common causes include—

- Stress-induced compromise of the immune system.
- Inadequate oral and dental hygiene practices.
- Use of tobacco products.
- Prolonged intake of sports and energy drinks which contain sugars and acids.
- Accidental and combat-related injury to the face.

In addition to those considerations already listed, mission, enemy, terrain and weather, troops and support available, time available, and civil considerations may also present situations where Soldiers will not have ready access to a dental treatment facility when routine dental care may be all that is required to correct a minor problem before it becomes more serious.

Dental support to detainee operations is discussed in ATP 4-02.46. Refer to Army medical doctrine for preventive dentistry and the Dental Readiness Program.

SECTION I — CATEGORIES OF DENTAL CARE

OPERATIONAL DENTAL CARE

5-1. Dental care provided for deployed Soldiers in the AO is referred to as operational dental care. Operational dental care consists of emergency dental care and essential dental care.

EMERGENCY DENTAL CARE

5-2. Emergency dental care is care designed to provide relief of oral pain, elimination of acute infection, control of life-threatening oral conditions (hemorrhage, cellulitis, or respiratory difficulty), and treatment of trauma to teeth, jaws, and associated facial structures. It is considered the most austere form of dental care provided to deployed Soldiers who are engaged in tactical operations.

5-3. Since dentists are not assigned to Role 1 MTFs, the battalion surgeon or physician assistant can provide limited emergency dental treatment until the patient can be seen by a dentist. Common examples of emergency treatments include—

- Simple extractions.
- Temporary fillings.

- Administration of analgesics.
- Administration of antibiotics.

ESSENTIAL DENTAL CARE

5-4. Essential dental care is generally considered the highest category of operational dental care available in the theater. Essential dental care includes dental treatments which are performed in order to prevent potential dental emergencies and maintain the oral fitness of Soldiers. Essential dental care enhances the individual Soldier's combat readiness and can prevent lost duty time. It is for these reasons that essential dental care is made readily available. Soldiers who are categorized as dental Class 2 (untreated oral disease) or dental Class 3 (potential dental emergencies) should receive essential care as soon as the tactical situation and availability of dental assets permit. Emergency treatments performed by dental officers include—

- Definitive restorations.
- Minor oral surgery.
- Exodontic, periodontic, and prosthodontic procedures.

COMPREHENSIVE DENTAL CARE

5-5. Comprehensive dental care consists of any and all procedures which are required to restore an individual to optimal oral health, function, and esthetics. Due to the complexity of the procedures and the length of time generally required to perform them, comprehensive dental care is normally provided only in the CONUS-support base. When comprehensive dental care is made available in theater, it is usually reserved for AHS plans in which extended periods of reception, staging, onward movement, and integration in theater are anticipated. The dental assets providing this degree of dental care are located within Role 3 MTFs.

PREVENTIVE DENTISTRY

5-6. Although preventive dentistry is not technically a category of dental care it is an extremely important component of the dental program. The results of good preventive dental care practices are healthy teeth and gums and the absence of oral disease. Therefore, Soldiers who incorporated good preventive dental hygiene practices are far less likely to become dental casualties due to disease while deployed.

5-7. Preventive dentistry incorporates primary, secondary, and tertiary preventive measures taken to reduce or eliminate conditions that may decrease a Soldier's fitness to perform his mission and which could result in the Soldier being removed from his unit for treatment.

5-8. Preventive dentistry and dental readiness programs are not discussed in this publication. Refer to Army medical doctrine for additional information on preventive dentistry and dental readiness programs.

SECTION II — DENTAL CLASSIFICATION

5-9. Every Soldier is assigned a dental classification based on the results of a thorough oral and dental examination. The classification is a dentist's best judgment of the state of a Soldier's oral and dental health and is used to determine the likelihood that a patient will experience a dental emergency during a deployment.

DENTAL CLASS 1 (ORAL HEALTH)

5-10. Dental Class 1 includes patients with a current dental examination and who do not require dental treatment or reevaluation. Dental Class 1 patients are worldwide deployable.

DENTAL CLASS 2 (ORAL HEALTH)

5-11. Dental Class 2 includes patients with a current dental examination and who require nonurgent dental treatment or reevaluation for oral conditions, which are unlikely to result in dental emergencies within 12 months. Dental Class 2 patients are worldwide deployable. Patients in dental Class 2 may exhibit the following—

- Treatment or follow-up indicated for dental caries or minor defective restorations that can be maintained by the patient.
- Interim restorations or prostheses that can be maintained for a 12-month period. This includes teeth that have been restored with permanent restorative materials for which protective cuspal coverage is indicated.
- Edentulous areas requiring prostheses but not on an immediate basis.
- Periodontium that requires—
  - Oral prophylaxis.
  - Maintenance therapy.
  - Treatment for slight-to-moderate periodontitis and stable cases of more advanced periodontitis.
  - Removal of supragingival or mild-to-moderate subgingival calculus.
  - Unerupted, partially erupted, or malposed teeth that are without historical, clinical, or x-ray signs or symptoms of pathosis, but which are recommended for prophylactic removal.
  - Active orthodontic treatment. The provider should consider placing the patient in passive appliances for deployments up to six months. For longer periods of deployment, the provider should consider removing active appliances and placing the patient in passive retention.
  - Temporomandibular disorder in remission. The provider anticipates the patient can perform duties while deployed without ongoing care and any medications or appliances required for maintenance will not interfere with duties.
  - Teeth that have had root canal therapy initiated, are causing no pain or swelling, and temporarily restored with calcium hydroxide paste and a restoration.

DENTAL CLASS 3 (ORAL HEALTH)

5-12. Dental Class 3 includes patients who require urgent or emergent dental treatment. Dental Class 3 patients normally are not considered to be worldwide deployable.

- Treatment or follow-up indicated for dental caries, symptomatic tooth fracture, or defective restorations that cannot be maintained by the patient.
- Interim restorations or prostheses that cannot be maintained for a 12-month period.
- Patients requiring treatment for the following periodontal conditions that may result in dental emergencies within the next 12 months:
  - Acute gingivitis or pericoronitis.
  - Active progressive, moderate, or advanced periodontitis.
  - Periodontal abscess.
  - Progressive mucogingival condition.
  - Periodontal manifestations of systemic disease or hormonal disturbances.
  - Heavy subgingival calculus.
- Edentulous areas or teeth requiring immediate prosthodontic treatment for adequate mastication or communication or acceptable esthetics.
- Unerupted, partially erupted, or malposed teeth with historical, clinical, or x-ray signs or symptoms of pathosis that are recommended for removal.
- Chronic oral infections or other pathologic lesions including—
  - Pulpal, periapical, or resorptive pathology requiring treatment.
  - Lesions requiring biopsy or awaiting biopsy report.

- Emergency situations requiring therapy to relieve pain, treat trauma, treat acute oral infections, or to provide timely follow-up care (for example, drain or suture removal) until resolved.
- Acute temporomandibular disorders requiring active treatment that may interfere with duties.

DENTAL CLASS 4 (ORAL HEALTH)

5-13. Dental Class 4 includes patients who require periodic dental examinations or patients with unknown dental classifications. Dental Class 4 patients normally are not considered to be worldwide deployable.

SECTION III — ALTERNATE WARTIME ROLES

MASS CASUALTY SCENARIOS

5-14. Dental personnel have the additional wartime role of augmenting medical personnel during mass casualty situations. Under these circumstances, dental officers may be called upon to augment and assist the medical staff of these facilities in treating the sick and injured.

5-15. Dental officers and personnel may be called upon to render assistance in the following areas:

- Surgical procedures.
- Forensic dental identification.
- Maxillofacial injury treatment.
- Soft tissue wound management.
- Chemical, biological, radiological, and nuclear casualty management.
- Orthopedic injury treatment.
- Initial burn treatment.
- Intravenous infusion techniques.
- Intubation of surgical patients and patients with compromised airways.
- Infection control and sterile techniques.

5-16. While the focus on additional wartime roles has generally been on the individual provider, collective use of the dental unit or its subordinate elements may also be appropriate when the situation requires a consolidated medical response.

VETERINARY SUPPORT

5-17. An additional wartime role for dental personnel involves providing dental treatment for military working dogs. On those occasions when military working dogs require emergency dental care or treatment for injuries involving their teeth, Veterinary Corps officers may request the assistance of Dental Corps officers to treat these animals.

SECTION IV — ORGANIZATION AND FUNCTIONS OF DENTAL UNITS

MODULARITY AND PROXIMITY

5-18. The modular force is based on brigade-size elements with specialized capabilities. Because of their size and mobility they are capable of conducting expeditionary and joint operations and once deployed are better able to quickly respond to ever-changing mission requirements. Modular units allow Army planners to tailor the force to be flexible and agile. Specifically tailoring the force reduces strategic lift requirements and enables the U.S. to put combat power where it is needed in considerably less time than previously possible. To better support the modular force the Army Medical Department mission command organizations have also been redesigned to be more modular.

5-19. The modular design of medical units gives the medical command (deployment support) the ability to—

- Assist in deploying the optimal mix of medical capabilities.
- Ensure seamless, state-of-the-art medical and dental care, regardless of location.
- Provide tested and proven systems to the battlefield and ensure the provision of the right care at the right place and time.
- Promote scalability through easily tailored, capabilities-based packages that result in improved tactical mobility, reduced footprint, and increased modularity for flexible task organization.
- Provide and enable the joint force commander the ability of choosing augmentation packages which enable rapid synchronization and deployment of desired medical capabilities.
- Maintain a regional focus in support of the combatant commander's theater engagement strategy.

5-20. To ensure that Soldiers have ready access to dental treatment, dental assets are organic to the supporting medical companies of the brigade combat teams, special forces groups, and civil affairs units. Refer to Army medical doctrine for additional information on dental support to the maneuver forces.

DENTAL STAFF OFFICER AND NONCOMMISSIONED OFFICER POSITIONS

5-21. Dental staff officers and noncommissioned officers at all levels of command and within each role of care are responsible for developing and implementing dental policies and procedures and providing running estimates and plans for how they will provide dental support for their respective commands.

5-22. The dental staff officers and noncommissioned officers determine what resources are required to adequately support the troop population in their AO. They develop running estimates for inclusion in AHS annexes to the operation plan. Based upon real assets in the AO (refer to Army doctrine for additional information on the preparation of Army system estimates and plans), they provide technical guidance on dental matters to subordinate dental units. They monitor the oral health of the supported troops and the readiness of all assigned dental assets (personnel and equipment). They continually evaluate AHS dental support plans to determine dental resource requirements and adequacy of available assets. Specific duties may include surveillance of the—

- Operational readiness status of dental resources in the AO.
- Operational requirements of supported troops (for example, number and types of units supported or in the AO; number of troops being supported; the anticipated duration of the operation; the tactical situation; the location and distribution of supported units; and the expressed needs of commanders).
- Provision of dental services to enemy prisoners of war, retained personnel, and detainees.
- Provision of dental services to other supported populations when authorized and directed to provide care.

ARMY SERVICE COMPONENT COMMAND

5-23. There is no dental surgeon located within the Army Service component command surgeon's cell.

MEDICAL COMMAND (DEPLOYMENT SUPPORT)

5-24. The medical command (deployment support) headquarters company has a dental surgeon, a preventive dentistry officer, and one senior dental noncommissioned officer position reflected on its TOE.

5-25. The medical command (deployment support) dental surgeon is the senior colonel, (area of concentration 63R) in the headquarters. The dental surgeon is responsible for—

- Establishment of an effective and consistent program for dental services and dental operations on an area basis.

- Area of operations collection and consolidation of dental treatment data and forwarding the data to the central data repository.
- Developing theater-level policies and procedures to be executed by subordinate dental service support assets.
- Exercising technical supervision over all the dental units in the AO if the medical brigade (support) is not deployed.
- Directing the dental service element of the headquarters.
- Providing dental staff support to the medical command (deployment support) commander.

5-26. The preventive dentistry officer supports the dental surgeon in all staff actions. Specific duties include—

- Providing oral health surveillance information in support of policy and procedure development.
- Developing plans and orders concerning oral fitness and preventive dentistry programs.
- Recommending dental treatment policies.
- Developing programs for dental support of foreign humanitarian assistance and stability tasks.
- Ensuring collection of dental workload information in the AO.

5-27. The staff dental noncommissioned officer is a sergeant major (military occupational specialty 68Z5O.) His duties include—

- Supervising the general administrative functions and coordination of personnel assignments.
- Evaluating the training programs and requirements.
- Assisting dental staff officers in the administrative and technical supervision of subordinate dental facilities.
- Assisting in the development of running estimates for operational plans.
- Providing technical assistance in planning and staffing of subordinate dental facilities.

MEDICAL BRIGADE (SUPPORT)

5-28. The medical brigade (support) headquarters staff does not have dental personnel assigned to serve as a dental surgeon or senior dental noncommissioned officer. When technical advice and assistance is required regarding dental issues, they consult with the senior subordinate dental company commander and the senior dental noncommissioned officer in their AO. This officer serves as the medical brigade (support) dental surgeon whose principle responsibility is to advise the chief, professional services on the dental health of the command and the supported troop population. The dental surgeon's duties and responsibilities include—

- Exercising technical supervision over dental assets in assigned hospitals and dental units subordinate to the medical brigade (support).
- Monitoring preventive dentistry programs within the command and determining dental readiness rates.
- Developing policy, procedures, and protocols for dental treatment within the medical brigade's dental treatment facilities.
- Advising the chief, professional services when augmentation of oral and maxillofacial surgical resources is required.
- Providing consultation to medical brigade (support) Role 3 MTFs on medical evacuation requirements for dental surgical patients entering the U.S. Air Force evacuation system.

5-29. The medical brigade (support) dental surgeon may also be called upon to serve as the division dental surgeon. His responsibilities in this capacity include providing technical supervision for subordinate dental officers that are assigned to medical companies in support of brigade combat teams, special forces groups, and civil affairs units at unit level, as well as for dental assets assigned within the medical brigade.

5-30. The duties and responsibilities of the dental noncommissioned officer tasked with providing the medical brigade (support) with advice and assistance, in concert with the command dental surgeon, include—

- Monitoring dental activities for the command.

- Receiving reports from subordinate units, consolidating the data, and forwarding it to his higher headquarters.
- Coordinating policies, procedures, and protocols for the treatment of dental conditions and preventive dentistry programs.
- Recommending priority of fill and assignment of dental personnel to subordinate dental elements.
- Serving as the principal noncommissioned officer providing technical assistance to subordinate unit enlisted dental personnel.

5-31. Dental officers assigned to medical companies in support of maneuver forces serve as the dental surgeons for the parent unit. Dental officers assigned to brigade support battalion medical companies serve as advisors to the brigade commanders on matters involving unit dental readiness. They use dental classification information provided by the supporting dental treatment facility to accurately determine the dental readiness of the organization and make recommendations on how to improve the unit's dental readiness posture. Additional responsibilities involve providing running estimates and recommendations concerning the delivery of dental support for brigade combat team operations.

UNIT-LEVEL DENTAL SUPPORT

AREA SUPPORT SQUAD

5-32. Area support squads are assigned to medical companies at either brigade-level or with the echelons above brigade medical companies (area support) and provide dental service support within brigade combat teams, special forces groups, civil affairs, and echelons above brigade units. Area support squads are organic to all medical companies. Although collocated within the AO of the Soldiers that they support, forward dental treatment teams may be overwhelmed by the number of patients and unable to fully support the patient population without assistance. Also the echelons above brigade area support squad dental element may have more than they can adequately support. In those situations, the dental company (area support) can augment the area support squad to treat the increased number of patients being seen. The area support squad has a general dental officer and a dental specialist assigned.

DENTAL SERVICES SECTION AND OPERATING ROOM/CENTRAL MATERIEL SERVICES SECTION, COMBAT SUPPORT HOSPITAL

5-33. Dental service support within the combat support hospital is provided by the dental services section. The dental services section provides routine dental care, treatment for maxillofacial injuries, and oral surgery support for hospital staff, patients, military personnel in the immediate area, and patients referred by other MTFs in the area. The dental services section has a comprehensive dentist, a preventive dentistry sergeant, and a dental specialist assigned.

5-34. When performing surgical procedures, the oral and maxillofacial surgeon will generally require the assistance of other operating room personnel to assist him while conducting maxillofacial surgical procedures. The operating room/central materiel services section has an oral-maxillofacial surgeon and dental specialist assigned.

AREA DENTAL SUPPORT

5-35. Area dental support is provided by the dental company (area support) (TOE 08473R000).

DENTAL COMPANY (AREA SUPPORT)

5-36. The dental company (area support) (Figure 5-1) was designed under the Medical Reengineering Initiative. The mission of the dental company (area support) (TOE 08473R000) is to provide operational dental care consisting of emergency and essential dental care designed to eliminate potential dental emergencies on an area basis.

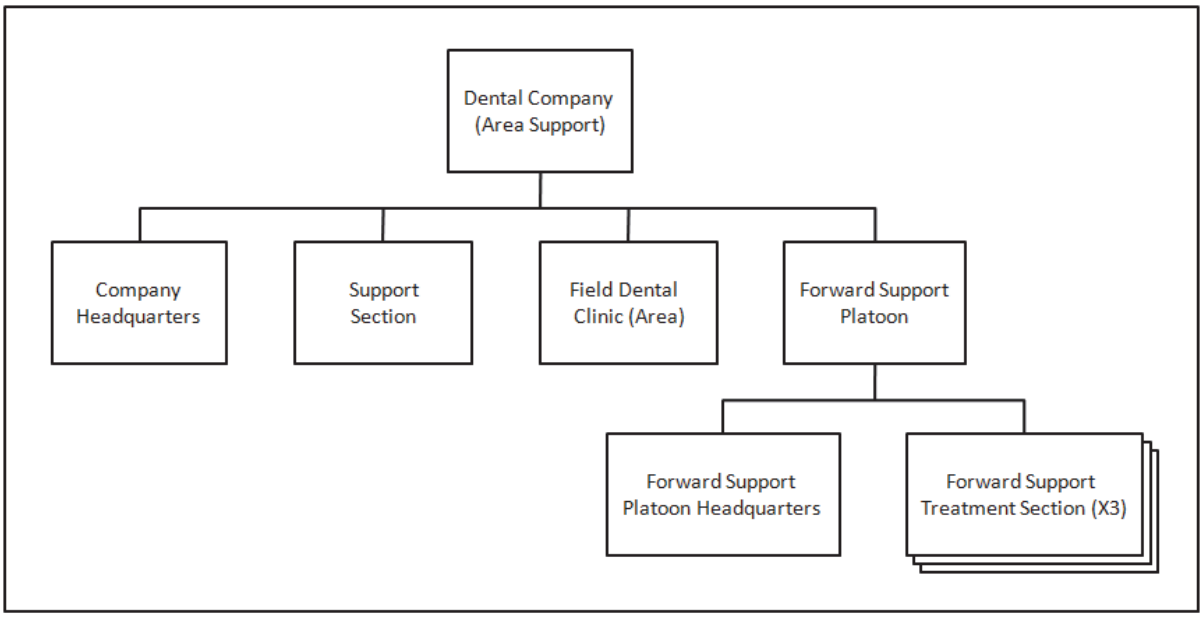


Figure 5-1. Dental company (area support)

ASSIGNMENT

5-37. The dental company (area support) is assigned to the medical command (deployment support) or medical brigade (support).

EMPLOYMENT

5-38. The dental company (area support) is employed with the medical command (deployment support) or medical brigade (support) within an AO. Dental teams may be employed in the brigade combat team area to provide forward emergency and preventive dental care.

BASIS OF ALLOCATION

5-39. The dental company (area support) is employed on the basis of allocation of one company per 43,000 Soldiers supported in the AO. This is based upon the ratio of one dentist in support of 1,175 troops.

CAPABILITIES

5-40. The dental company (area support) provides—

- Mission command of subordinate dental elements.
- Operational dental care, consisting of emergency dental care and essential dental care.
- Reinforcement and reconstitution of brigade combat team and dental assets.
- Far forward operational dental care to small and forward deployed troop concentrations. This section is composed of 3 forward support treatment sections. Each section is composed of 6 treatment teams for a total of 18 forward treatment teams to provide area support.
- Augmentation of medical assets during mass casualty situations.

5-41. Soldiers assigned to this company are issued weapons (pistols, rifles, and squad automatic weapons) for personal defense and protection of patients under their care. Due to the forward nature of their mission, 100 percent of the Soldiers assigned to the forward support treatment teams are issued weapons.

5-42. This unit performs unit maintenance on all organic equipment, except communications-electronics and communications security equipment.

DEPENDENCIES

5-43. The dental company (area support) is dependent on—

- Appropriate elements of the corps or Army Service component command for AHS support, religious, legal, finance, personnel and administrative services, food service, water, supplemental transportation support, and communications-electronic repair and communications security equipment repair and maintenance.
- Appropriate elements of the corps or Army Service component command for security of enemy prisoners of war and detainee patients and U.S. prisoner patients.

FUNCTIONS AND RESPONSIBILITIES

5-44. The company headquarters provides supervision and mission command of the company.

5-45. The support section provides nonclinical support activities to include wheeled vehicle, power generation, and medical equipment maintenance.

5-46. The field dental clinic (area) provides operational dental care consisting of emergency dental care and essential dental care.

5-47. The forward support platoon headquarters provides mission command and administrative support to the treatment sections.

5-48. The three forward support treatment sections provide operational dental care consisting of emergency dental care and essential dental care throughout the combat zone and isolated troops concentrations.

MOBILITY

5-49. This unit is capable of transporting 133,700 pounds (11,073.0 cubic feet) of TOE equipment with organic vehicles. This unit has 79,758 pounds (6,473.3 cubic feet) of TOE equipment requiring transportation. This unit requires 50 percent mobility of TOE equipment and supplies to be transported in a single lift using its authorized organic vehicles.

SECTION V — DENTAL CLINICAL OPERATIONS

PATIENT SAFETY

5-50. Patient safety in the health care setting involves a variety of clinical and administrative activities that organizations undertake to identify, evaluate, and reduce the potential for harm to beneficiaries and to improve health care quality. Effective patient safety initiatives seek to control untoward events before they occur and, as such, elements of risk assessment, risk identification, and risk reduction or containment are involved.

5-51. Leaders in MTFs/dental treatment facilities play a critical role in the facility-based patient safety program given the influence that leaders exert on activities directly associated with this program (such as performance improvement, environmental safety, and risk management). Although the beneficiary is the central focus of patient safety, it is difficult to create an organization-wide patient safety initiative that excludes staff and others. Many of the activities implemented to improve patient safety (for example, security, fire safety, equipment safety, infection control, and falls prevention) encompass staff and others, as well as patients. Patient safety is critical and must be effectively integrated with existing MTF/dental treatment facility safety programs. Patient safety and the reporting of adverse events, especially sentinel events, are likewise important in the field environment. Wherever practical, efforts must be made by leadership to emphasize patient safety and to minimize patient harm associated with the provision of health care to Soldiers.

5-52. Universal precautions will be implemented by all dental personnel. To prevent cross-contamination, barrier protection materials are included in the dental equipment set.

INFECTION CONTROL AND EXPOSURE CONTROL

5-53. All U.S. Army dental treatment facilities and all U.S. Army dental health care workers are governed by infection control policies and regulatory guidance provided by the—

- Assistant Secretary of Defense for Health Affairs.
- Office of The Surgeon General.
- Dental Command.
- Occupational Safety and Health Administration.
- Centers for Disease Control and Prevention.

5-54. All Army dental units must adhere to infection control/exposure programs based on existing regulatory guidance. These programs provide site specific guidance in all aspects of infection and exposure control for dental health care workers.

QUALITY ASSURANCE PLAN

5-55. The quality assurance plan is a tool which dental commanders can use to ensure that deployed Soldiers have access to the same quality of care that they would at their home station dental treatment facility. The plan allows the dental commander to make a standardized assessment of Soldiers access to care, quality of care provided, effectiveness and utilization of dental assets and resources, and risk management considerations and solutions.

WASTE MANAGEMENT

5-56. Dental units generate three types of waste materials, they are—

- General waste.
- Hazardous waste.
- Medical waste (to include regulated medical waste).

5-57. Refer to Army medical doctrine for a detailed discussion regarding the collection, handling, and disposal of waste materials. Proper handling and disposal of medical waste is required to protect the force and avoid environmental contamination. Assistance with the removal and disposal of medical waste is normally available through supporting engineer units, preventive medicine teams, and local MTF.

RADIOLOGY OPERATIONS

5-58. The ability to produce x-ray images is an important diagnostic tool in modern dentistry. It is for this reason that handheld digital x-ray equipment is an integral part of each dental equipment set. As with all radiology operations, applicable safety precautions must be put in place and observed to reduce the threat of injury associated with this type of equipment.

5-59. Dental radiology equipment is found in the dental company, forward treatment sections, and in brigade support medical companies and medical companies (area support). The handheld digital x-ray equipment is capable of producing a full range of intraoral x-rays and, when necessary, may be used for other medical procedures.

5-60. Operation of handheld digital x-ray equipment is an additional responsibility of the dental specialists assigned to the unit. As with all radiology operations, the use of patient protective aprons is mandatory when x-ray images are being made.

5-61. The manufacturer's instructions and guidelines for the care and use of x-ray equipment and associated materials must be followed. These procedures and precautions should be addressed in the unit's clinical standard operating procedures.

FIELD DENTISTRY

5-62. Providing dental care in a field environment requires the same basic equipment, clinical skills, and standards of practice as that provided in garrison dental treatment facilities. There are, however, unique

challenges to dental personnel working in a field environment presented by the varying terrain features, environmental conditions, availability or lack of facilities, and the tactical situation. To effectively support and quickly return Soldiers to duty, dental personnel must be capable of working quickly and accurately in a field environment.

5-63. Dental treatment can be provided as soon as a suitable working area and power are established. Patient care operations performed in the field are performed in much the same manner as they would be in a garrison environment. The objective, as previously stated, is to provide the necessary care and return Soldiers to duty as quickly as possible.

PROSTHODONTIC CARE OPERATIONS

5-64. Soldiers who wear dentures that begin to cause discomfort and pain, are damaged, or are lost are classified as dental casualties. These casualties can be treated by any of the dental assets in the AO that are capable of repairing or replacing dentures in the field. All theater dental assets have dental equipment sets that contain tools and materials necessary to provide temporary fixed prosthodontic coverage and cementation. Additionally, all dental assets are equipped with emergency denture repair sets that enable the dental providers to repair most dentures and transitional removable prosthesis.

5-65. Area of operations prosthodontic laboratory capabilities include—

- Wax records and bases.
- Impression procedures.
- Immediate transitional resin dentures.
- Relining/rebasing.
- Repairs.

5-66. Patient requirements that exceed the capability of the theater laboratory can be mailed through the Army Post Office system back to CONUS area dental laboratories for fabrication.

5-67. The benefit of this capability is that the unit is not required to keep the additional personnel and equipment on hand. The savings in weight and cube contributes significantly to the mobility of the unit.

MEDICAL EVACUATION OF DENTAL PATIENTS

5-68. When dental patients require care that exceeds the capacity of their supporting dental unit they may require medical evacuation to the next role of care dental treatment facility. Medical evacuation of these patients is no different than that which is provided for combat casualties or severe illnesses. The medical evacuation assets that routinely provide evacuation support for a unit will transport dental casualties based on their medical condition and the evacuation precedent assigned to that patient.

DENTAL SUPPORT PLANNING

5-69. As with all Army operations, dental support planning is mission, enemy, terrain and weather, troops and support available, time available, and civil considerations-driven. Dental unit commanders must be actively involved in the planning process. This assures that the plans they develop effectively implement guidance given by their higher headquarters. It also helps to ensure that the plan is coordinated with and integrated into the overall operation planning process. Refer to Army doctrine publication and Army Doctrine Reference Publication (ADRP) 5-0. This process leads to rehearsal and the execution and assessment of the mission.

ADMINISTRATIVE TOOLS AND REQUIREMENTS

DENTAL RECORDS

5-70. Maintenance and disposition of dental treatment records is governed by AR 40-66.

Outpatient Treatment Records

5-71. Outpatient treatment records are prepared for each patient treated by a U.S. Army dental treatment facility. An outpatient treatment record will be prepared by the first dental treatment facility to which a person reports for outpatient treatment. After being initiated, the outpatient treatment record will be kept at the dental treatment facility.

Dental Treatment Facility Treatment Logbooks

5-72. The dental treatment facility's daily dental treatment logs are maintained by the dental officer at each facility. The logbook is maintained by each facility to record the name, rank, and unit of the patients treated at that facility and their disposition. Other useful information includes the date, time, and the reason for the visit and whether the treatment provided was for disease and nonbattle injury- or battle injury-related conditions. This log is retained for the clinic's record and the information provides a valuable source of data for statistical reporting.

DENTAL REPORTS

Daily Dental Unit Status Report

5-73. The daily dental unit status report provides a brief summary of supported units' current dental condition. The frequency with which the report is submitted is situationally dependent. The report is submitted to the dental company's higher headquarters.

Quarterly Dental Activity Report

5-74. The quarterly dental activity report is a summary of the dental treatment facility's activities during the quarter. This report is required to be submitted to the dental treatment facility's higher headquarters by the 15th of the month following each fiscal quarter of the year by the division/corps surgeon. For example, each dental treatment facility will submit a report covering the period 1 July through 30 September not later than the 15th of October of that year. If participation in an operation or exercise ends before the end of a quarter, the final dental activity report will be due 15 days after return to the home station.

5-75. Daily dental unit status reports and quarterly dental activity reports are submitted through command channels to the medical command (deployment support) dental surgeon. The dental treatment facility dental reports are retained at the dental facility and are available for audit if needed. Medical command and dental command surgeons extract data which are used to assess resource management and professional policy needs before forwarding reports to the next higher command level. A summary of the dental treatment facility's daily dental activities report is the only numerical manipulation required at the dental treatment facility level. Dental surgeons and dental commanders may extract additional information required to prepare their quarterly dental activities report.

Appendix A

Planning Factors

This appendix provides information for combat support hospital commanders, their staffs, and assigned personnel. It contains estimated planning factors for personnel; transportation and movement; supply; human resources support; AHS support planning for hospitalization; and engineer requirements effective as of the date of this publication. The data is an estimate and is not intended to be all-inclusive. Fluctuations and changes in the data presented are contingent upon modifications to the TOE, its mission, and the scenario. This appendix does not negate responsibility for the commander and his staff to initiate deployment planning and coordination for his unit based on mission, enemy, terrain and weather, troops and support available, time available, and civil considerations. Hospital commanders should ensure that selected staff members of the HHD, 84-bed and 164-bed medical companies attend a unit movement course to enhance strategic deployment.

SECTION I — HOSPITAL PERSONNEL DEPLOYMENT PLANNING FACTORS

A-1. Table A-1 depicts personnel data on the hospital modules.

Table A-1. Personnel data

Personnel	*Headquarters and headquarters detachment*	*84 bed*	*164 bed*	*Total (248 bed)*
Officer	11	61	84	156
Warrant Officer	2	0	0	2
Enlisted	43	120	167	330
Total	**56**	**181**	**251**	**488**

A-2. Table A-2 depicts planning factors for personal baggage/equipment for hospital personnel.

Table A-2. Personal baggage/equipment for hospital personnel

248-bed combat support hospital		
Personnel weight (combat-equipped, includes 15-pound hand-carry bag)	220 pounds/man (488)	107,360 pounds
Mobilization bag—weight	25 pounds/man	12,200 pounds
Mobilization bag—cube	1 cubic foot/man	488 cubic feet
Check-in baggage—weight	70 pounds/man	34,160 pounds
Check-in baggage—cube	3 cubic feet/man	1,464 cubic feet
Total personnel weight and cube with all gear	**153,720 pounds**	**1,952 cubic feet**

Table A-2. Personal baggage/equipment for hospital personnel (continued)

Headquarters and headquarters detachment (248 bed)		
Personnel weight (combat-equipped, includes 15-pound hand-carry bag)	220 pounds/man (56)	12,320 pounds
Mobilization bag—weight	25 pounds/man	1,400 pounds
Mobilization bag—cube	1 cubic foot/man	56 cubic feet
Check-in baggage—weight	70 pounds/man	3,920 pounds
Check-in baggage—cube	3 cubic feet/man	168 cubic feet
Total personnel weight and cube with all gear	**17,640 pounds**	**224 cubic feet**
Hospital company A (84 bed)		
Personnel weight (combat-equipped, includes 15-pound hand-carry bag)	220 pounds/man (181)	39,820 pounds
Mobilization bag—weight	25 pounds/man	4,525 pounds
Mobilization bag—cube	1 cubic foot/man	181 cubic feet
Check-in baggage—weight	70 pounds/man	12,670 pounds
Check-in baggage—cube	3 cubic feet/man	543 cubic feet
Total personnel weight and cube with all gear	**57,015 pounds**	**724 cubic feet**
Headquarters and headquarters detachment (164 bed)		
Personnel weight (combat-equipped, includes 15-pound hand-carry bag)	220 pounds/man (22)	4,840 pounds
Mobilization bag—weight	25 pounds/man	550 pounds
Mobilization bag—cube	1 cubic foot/man	22 cubic feet
Check-in baggage—weight	70 pounds/man	1,540 pounds
Check-in baggage—cube	3 cubic feet/man	66 cubic feet
Total personnel weight and cube with all gear	**6,930 pounds**	**88 cubic feet**
Hospital company B (164 bed)		
Personnel weight (combat-equipped, includes 15-pound hand-carry bag)	220 pounds/man (251)	55,220 pounds
Mobilization bag—weight	25 pounds/man	6,275 pounds
Mobilization bag—cube	1 cubic foot/man	251 cubic feet
Check-in baggage—weight	70 pounds/man	17,570 pounds
Check-in baggage—cube	3 cubic feet/man	753 cubic feet
Total personnel weight and cube with all gear	**79,065 pounds**	**1,004 cubic feet**
44-bed early entry hospitalization element, headquarters and headquarters detachment (44 bed)		
Personnel weight (combat-equipped, includes 15-pound hand-carry bag)	220 pounds/man (10)	2,200 pounds
Mobilization bag—weight	25 pounds/man	250 pounds
Mobilization bag—cube	1 cubic foot/man	10 cubic feet
Check-in baggage—weight	70 pounds/man	700 pounds
Check-in baggage—cube	3 cubic feet/man	30 cubic feet
Total personnel weight and cube with all gear	**3,150 pounds**	**40 cubic feet**

Table A-2. Personal baggage/equipment for hospital personnel (continued)

Early entry hospitalization element (44 bed)		
Personnel weight (combat-equipped, includes 15-pound hand-carry bag)	220 pounds/man (144)	31,680 pounds
Mobilization bag—weight	25 pounds/man	3,600 pounds
Mobilization bag—cube	1 cubic foot/man	144 cubic feet
Check-in baggage—weight	70 pounds/man	10,080 pounds
Check-in baggage—cube	3 cubic feet/man	432 cubic feet
Total personnel weight and cube with all gear	**45,360 pounds**	**576 cubic feet**
Headquarters and headquarters detachment (40 bed)		
Personnel weight (combat-equipped, includes 15-pound hand-carry bag)	220 pounds/man (24)	5,280 pounds
Mobilization bag—weight	25 pounds/man	600 pounds
Mobilization bag—cube	1 cubic foot/man	24 cubic feet
Check-in baggage—weight	70 pounds/man	1,680 pounds
Check-in baggage—cube	3 cubic feet/man	72 cubic feet
Total personnel weight and cube with all gear	**7,560 pounds**	**96 cubic feet**
Hospital augmentation element (40 bed)		
Personnel weight (combat-equipped, includes 15-pound hand-carry bag)	220 pounds/man (37)	8,140 pounds
Mobilization bag—weight	25 pounds/man	925 pounds
Mobilization bag—cube	1 cubic foot/man	37 cubic feet
Check-in baggage—weight	70 pounds/man	2,590 pounds
Check-in baggage—cube	3 cubic feet/man	111 cubic feet
Total personnel weight and cube with all gear	**11,655 pounds**	**148 cubic feet**

SECTION II — HOSPITAL LOGISTICS PLANNING FACTORS (CLASSES I, II, III, IV, VI, AND VIII)

CLASSES OF SUPPLY PLANNING FACTORS

CLASSES I THROUGH IV AND VI

A-3. Table A-3 provides the planning factors for Classes I through IV and VI.

Table A-3. Classes of supply (Classes I through IV and VI) factor rates

Class of supply	*Planning factor*
Class I	4.03 pounds per man per day
Class II	3.67 pounds per man per day
Class III	53.70 pounds per man per day (bulk) 0.59 pounds per man per day (packaged)
Class IV	8.500 pounds per man per day (includes 4.0 barrier materiel and 4.5 base construction)
Class VI	3.20 pounds per man per day

A-4. Information on available operational rations and menu planning in a theater is available in ATTP 4-41. Menu planning should be coordinated with the theater Class I manager and the designated

theater dietitian to ensure the availability of the ration mix needed to support medical requirements. At a minimum, a 21-day basic load of medical nutritional supplements should be deployed until the logistical system is fully capable of Class I support.

A-5. All Soldiers should deploy with at least a 30-day supply of personal-demand items. If exchange support is not readily available or cannot be established, health and comfort items are packaged and issued as a health and comfort pack. AR 710-2 provides guidance on planning and requisition of these items. Adjustments in quantity or selection of items in the health and comfort pack should be submitted to the theater Class I manager. The issue of health and comfort packs will cease when exchange facilities are available.

CLASS VIII PLANNING FACTORS

A-6. Tables A-4 and A-5 provide planning factors for determining Class VIII supply support requirements. These include the computation of medical logistics support and transportation requirements during early entry operations. Medical resupply sets and preconfigured push-packages are the primary means of resupply within the brigade combat team prior to the establishment of line item requisitioning. Demand history, casualty estimates, and specialty sets are used when basic mission requirements become more definitive. Refer to Army medical doctrine for additional information on support planning.

A-7. A pounds per Soldier per day and pounds per wounded in action admitted computation is used by medical logisticians when planning for Class VIII support and transportation requirements. The patient estimate (derived from the casualty estimate) is the basis for applying these computations. Table A-4 lists the Class VIII planning factor for each role of care and illustrates the consumption computation for the wounded-in-action patient category. The Class VIII planning factors were developed using generic patient streams that are intended to include various types of patients.

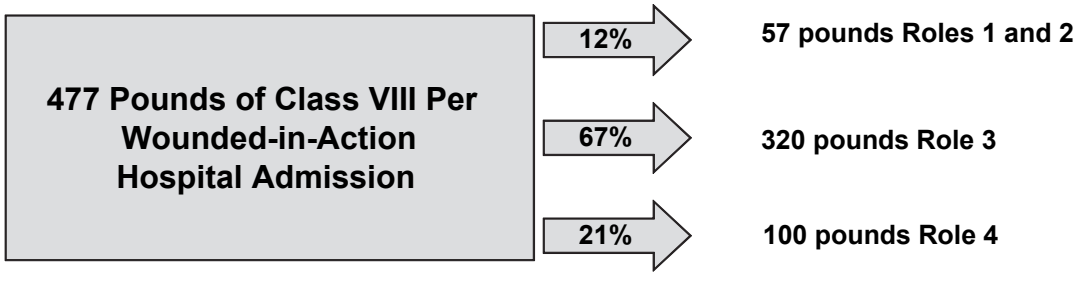
Table A-4. Class VIII planning factors

CLASS VIII PLANNING FACTOR PERCENTAGES BY ROLE OF CARE

Role of care	*Wounded-in-action planning factor = 477 pounds/ hospital admission*	*Disease-and-Nonbattle-injuries planning factor = 122 pounds/ hospital admission*	*Blister planning factor = 36 pounds/ hospital admission*	*Nerve planning factor = 110 pounds/ hospital admission*
Roles 1 and 2	12%	22%	7%	6%
Role 3	67%	69%	55%	81%
Role 4	21%	9%	38%	13%

Note. Population Supported Items Planning Factor = 0.19 pounds per Soldier per day (such as sunscreen, foot powder, and other items as provided under Common Table of Allowance 8-100).

ILLUSTRATION



Note. The percentages and information presented in Table A-4 are provided as a guide and are not intended as a substitute for more specific data.

A-8. Table A-5 expands on the information provided in Table A-4 by converting the percentages to pounds per type of admission.

Table A-5. Class VIII pounds per admission type

Roles of care	*Wounded-in-action planning factor as pounds/wounded in action hospital admission*	*Disease-and-nonbattle-injuries planning factor as pounds/disease and nonbattle injury hospital admission*	*Blister planning factor as pounds/blister hospital admission*	*Nerve planning factor as pounds/nerve hospital admission*
Roles 1 and 2	57 pounds	27 pounds	3 pounds	7 pounds
Role 3	320 pounds	84 pounds	19 pounds	89 pounds
Role 4	100 pounds	11 pounds	14 pounds	14 pounds
Note: Population supported items planning factor = 0.19 pounds per Soldier per day.				

ARMY MEDICAL FIELD FEEDING POLICY

A-9. The Army medical field feeding policy for hospitalized patients is three hot meals daily.

UNITIZED GROUP RATIONS™

A-10. The meals will consist of Unitized Group Rations™ (UGRs™) with the medical diet supplement. The UGR™ is available in two options: Unitized Group-Heat and Serve™ which is nonperishable, and UGR-A™ which includes perishable/frozen type entrées. The UGRs™ require mandatory enhancements such as bread, milk, and cold cereal for completion. The Meal, Ready-to-Eat™ (MRE™) is not authorized for feeding hospitalized patients except in emergencies when other rations are not available. In a mature AO, contract food service may be used to prepare food for hospitalized patients; however the meals will require modifications and distribution to patients by nutrition care specialists. The area food service contract will require modification to ensure patient feeding is medically appropriate; hospitalized patients require specialized diets not covered under typical food service contracts. The medical diet supplement may be used with the UGR™; MRE™; or contractor-provided foods for preparation of patient meals and nourishments. See Appendix B for additional information on UGRs™.

MEAL, READY-TO-EAT™ POLICY FOR SOLDIERS

A-11. The Surgeon General's policy on sole source consumption of MREs™ for Soldiers allows MREs™ to be consumed as the sole source of subsistence for up to 21 days. Milk is a required supplement and when available, bread, and fruit, as enhancements to the MRE™ are recommended. See Appendix B for additional information on use of MREs™ with medical diet supplements for patient feeding.

PATIENT MEALS

A-12. Patients are exempt from the AO rations policy and will receive three prepared hot meals per day and other nourishments as medically indicated. To support 24-hour patient care, the hospital may prepare four meals per day—breakfast, lunch, dinner, and a night meal. The night meal may utilize a breakfast or lunch/dinner menu according to local procedures.

STAFF MEALS

A-13. Staff assigned to medical units will be fed according to the Service AO ration policy. However, to simplify procurement, meal preparation, and service, staff may be served the patient regular hot meal if available.

NUTRITION CARE IN SUPPORT OF CIVIL AUTHORITIES

A-14. The hospital nutrition care section may be involved in feeding a healthy or malnourished population. The nutrition care services may be provided directly to the host-nation population or displaced persons through nutrition assessment, therapeutic feeding, and population-based feeding programs. Indirect nutrition care assistance includes serving as a consultant to the host-nation medical education system to develop host-nation nutritional care specialists and nutritional programs.

A-15. Contract food service support may be procured for the deployed force. When the contract includes feeding the hospital staff and patients, only one dietitian and one or two nutrition care specialists may be deployed. However, if the mission requires support to a large population, the full nutrition care section should be deployed. Regardless of the number of personnel deployed, the nutrition care personnel are responsible for ensuring that hospital nutrition care services are provided. They must ensure that the correct patient diets and nourishments are provided by the contractor at the right times. To ensure that patient needs are met, a process is developed (with the contractor, the nutrition care section, and hospital nursing services working together) for ordering and delivering patient meals and nourishments.

A-16. The provision of adequate fluids for rehydration and minimizing the effects of diarrhea is imperative. The combat support hospital dietitian is capable of providing expertise on the increased fluid requirements for rehydration and minimizing the effects of diarrhea.

NUTRITION CARE SECTION SUPPORT FOR THE STAY-BEHIND 40-BED SLICE OF THE 84-BED COMBAT SUPPORT HOSPITAL

A-17. When the hospital forward deploys a 44-bed hospital, the entire nutrition care section (personnel and equipment) deploys with it. There are no nutrition care personnel or equipment that would be left with the stay-behind 40-bed slice. Personnel in the stay-behind 40-bed slice must obtain food service support from the 164-bed company or from another unit in the area.

MANAGEMENT AND PLANNING OF BLOOD REQUIREMENTS

A-18. The management and distribution of blood in the AO is a function of medical logistics. In the long term and in a mature AO, blood management is based on resupply from the CONUS-blood donor base, using a combination of liquid and frozen blood products. Each combat support hospital stores liquid blood and a combination of liquid and frozen blood products of various groups and types.

LIQUID BLOOD PRODUCTS

A-19. Liquid blood products enter the AO through the U.S. Air Force Blood Transshipment Centers for further distribution to the Army blood support detachment, located with the medical battalion (multifunctional).

A-20. The blood support detachment provides collection, manufacturing, storage, and distribution of blood and blood products to AO MTFs (Roles 2 and 3). The blood support detachment is resupplied from a supporting U.S. Air Force Blood Transshipment Center. The blood support detachment commander may also serve as the area joint blood program officer if a Department of Defense Area Joint Blood Program Officer is not available.

A-21. Blood collection in the AO is governed by AO policy, but normally is done to provide platelets for emergency situations. Limited testing of blood drawn in the AO is done to minimize danger to recipients.

A-22. Blood shipped into the AO will be liquid red blood cells and fresh frozen plasma and, possibly, frozen platelets. Subject to availability, red blood cells shipped from CONUS are packed with the unit

group and type distribution as depicted in Table A-6. For additional information on blood planning and products refer to TM 8-227-12.

Table A-6. Distribution of blood group and type in area of operations

Blood group/type	*Distribution*
0 Rh Positive	40%
0 Rh Negative	10%
A Rh Positive	35%
A Rh Negative	5%
B Rh Positive	8%
B Rh Negative	2%

A-23. Blood planning factors are depicted in Table A-7.

Table A-7. Blood planning factors

Blood component	*Distribution*
Red blood cells	*3 units for each wounded-in-action and nonbattle-injury casualty initially admitted to a hospital
Fresh frozen plasma (FFP/PF24)	1.60 units for each wounded-in-action and nonbattle-injury casualty
Frozen platelet concentrate	0.15 units for each hospitalized wounded-in-action and nonbattle-injury casualty
Cryoprecipitate	0.40 units for each hospitalized wounded-in-action and nonbattle-injury casualty
*For blood planning purposes, count the wounded in action and nonbattle injury only one time in the system and not each time the patient is seen or admitted.	

A-24. The expected admission rates per day are critical in computing initial blood requirements. These rates, along with the above blood planning factors, provide the AHS planner with an initial estimate of daily blood requirements. Table A-8 provides a sample calculation for initial blood requirements.

Table A-8. Sample calculation for initial blood requirements

Expected initial admission rate for wounded in action and nonbattle injury = 8 per 1,000 per day
Total personnel = 10,000
Red blood cell planning factor = 4 units
Formula
(Total personnel/1,000) x Admission rate per day x Factor = Blood or blood component per day
Example
(10,000/1,000) x 8 x 4 = 320 units of red blood cells per day

OXYGEN PLANNING FACTORS

A-25. Tables A-9 and A-10 provide estimated planning factors and conversion factors for oxygen use in the facility.

Table A-9. Oxygen planning factors

Location	*Usage*
Operating room table	2.8 liters/minute during operational time
Intensive care unit bed (ventilator)	4.5 liters/minute for 17 percent of the total intensive care unit beds (patients on resuscitator/ventilator)
Intensive care unit bed (nasal cannula)	3.1 liters/minute for 17 percent of the total intensive care unit beds (patients on nasal cannula/mask)
Miscellaneous requirements	An additional factor of 10 percent is applied to the total of operating room and intensive care unit requirements to account for oxygen requirements in other areas of the hospital

Table A-10. Oxygen conversion factors

Oxygen quantity	*Conversion factor*
1 gallon (gaseous oxygen)	0.1333 cubic feet
95 gallons “D” cylinder	12.7 cubic feet
1650 gallons “H” cylinder	220 cubic feet
1 cubic foot (gaseous oxygen)	28.317 liters
95 gallons “D” cylinder	359.63 liters
1650 gallons “H” cylinder	6229.74 liters

SHOWERS

A-26. The Office of The Surgeon General recommends, from a health maintenance perspective, a minimum of one shower and one change of uniform per Soldier per week. While this meets the minimum health standard requirements, from a morale standpoint the Army goal is one standard shower and one expedient shower per week with two changes of uniform. The central hygiene and laundry planning factors are based on these two showers and 15 pounds of laundry per Soldier per week.

A-27. Centralized hygiene, shower, and laundry water is required by theater quartermaster elements to provide individual Soldier laundry and shower field services. Water for centralized hygiene, such as field showers, can be disinfected nonpotable fresh water when approved by preventive medicine personnel. Water for laundry services can be nonpotable fresh water. Water used for personal hygiene will be potable water only. The health threat may impact the water quality standards and limit the use of nonpotable water for field services.

WASTE PLANNING FACTOR

WASTEWATER

A-28. The hospital should plan for all patient and staff water and all laundry water requirements to become wastewater.

SOLID WASTE

A-29. Solid waste calculation (estimated): Total patients (beds) x 15 pounds = total patient solid waste per day; staff x 12.5 pounds = total staff solid waste per day.

A-30. Hospital infectious waste planning factors (estimated): 3 pounds (1 cubic foot) of infectious waste generated per bed per day.

A-31. For additional information on patient and staff waste, refer to paragraphs 3-40 through 3-43 of this publication.

HOSPITAL OPERATIONAL SPACE REQUIREMENTS

A-32. Table A-11 provides estimated operational space requirements for the 248-bed combat support hospital. The figures stated here do not provide exact operational space requirements for all situations. Due to the modular nature of the DEPMEDS shelters, the recommended space requirements serve as guidelines only. The actual space requirement will be dependent on the specific hospital configuration for a given mission, the available terrain, and the terrain topography.

Table A-11. Estimated operational space requirements

Hospital unit	*Calculation*	*Required acreage*
164-Bed Hospital Company	246,294 square feet ÷ 43,560 square feet per acre	5.7 Acres
84-Bed Hospital Company	248,454 square feet ÷ 43,560 square feet per acre	5.7 Acres
Early Entry Hospitalization Element (44 Bed)	158,816 square feet ÷ 43,560 square feet per acre	3.6 Acres
Hospitalization Augmentation Element (40 Bed)	87,555 square feet ÷ 43,560 square feet per acre	2.01 Acres
248-Bed Combat Support Hospital	403,432 square feet ÷ 43,560 square feet per acre	9.3 Acres

HOSPITAL WATER PLANNING FACTORS

A-33. Table A-12 provides estimated water planning factors that are unique to the combat support hospital. The estimated water requirements for the 40- and 44-bed increments can be determined from the data presented. The table does not include the Department of the Army water planning factors, which are common to all Army elements.

Table A-12. Estimated water planning factors

	Gallons required per day	*84-bed hospital company*	*164-bed hospital company*	*248-bed combat support hospital*
PATIENT CARE				
Clean up	1.00 per bed	84	164	248
Bed Bath	2.75 per bed patient	231	451	682
Bed Pan Wash	1.50 per bed	126	246	372
Laboratory Test	0.20 per bed	16.8	32.8	49.6
Sterilizer	45.00 per sterilizer	180	360	540
x-ray Processor	5.00 per x-ray	5	10	15
Hand Washing	2.00 per bed	168	328	496
Showers	3.40 per ambulatory patient	0	0	0
Total		**810.80**	**1,591.80**	**2,402.60**
SURGICAL				
Scrub	80.00 per case	1,280	2,560	3,840
Instrument Rinse	20.00 per case	320	640	960
Instrument Cleaning	70.00 per unit	70	140	210
Operating Room Clean-up	3.00 per case	48	96	144
Total		**1,718**	**3,436**	**5,154**
HOSPITAL LAUNDRY				
Hospital Linen	3.00 per pound	898.98	1,558.77	2,457.75
Total		**898.98**	**1,558.77**	**2,457.75**
STAFF/PATIENT				
Direct Care Worker	3.20 per direct care worker	448	720	1,168
Food Preparation	1.00 per meal	260	432	692
Showers	3.40 per direct care worker	476	765	1,241
Total		**1,184**	**1,917**	**3,101**
Grand Total		**4,611.78**	**8,503.57**	**13,115.35**

SECTION III — FORWARD SURGICAL TEAM CLINICAL PLANNING FACTORS

A-34. Table A-13 provides a list of forward surgical team-specific clinical planning factors that may be used in determining the full potential and limitations of the forward surgical team.

Table A-13. Forward surgical team clinical planning factors

Forward surgery
Requires a minimum of 1.5 hours set up to become fully functional.
Must not begin surgery unless they can guarantee sufficient time on station to safely begin and conclude the required procedures and permit postoperative recovery.
Two operating tables per team.
Average time per patient = 135 minutes.
Maximum caseload per 24 hours = 10 cases (medical equipment set will only support 30 cases total without reconstitution).
Postoperative care up to 6 hours with maximum of 8 simultaneous patients.
Relief/reconstitution/augmentation of the forward surgical team is required after 72 hours.

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Appendix B
Nutrition Care Operations

SECTION I — NUTRITION CARE STAFF RESPONSIBILITIES

B-1. The primary hospital staff members responsible for the operation of the hospital food service are the dietitian and the nutrition care specialist. The hospital commander is responsible for providing military personnel for support duties in the nutrition care section.

B-2. For detailed information on the qualifications and responsibilities of the dietitian and nutrition care specialist see Department of the Army Pamphlet (DA Pam) 611-21.

ORGANIC PERSONNEL

B-3. The 248-bed combat support hospital can operate as two separate hospital companies. Each company has a nutrition care section (one in the 164-bed hospital company and one in the 84-bed hospital company). The 84-bed hospital company can operate as the 84-bed or forward deploy a functional 44-bed hospital. When the hospital forward deploys a 44-bed hospital, the entire nutrition care section (personnel and equipment) deploys with it. There are no nutrition care personnel or equipment that would be left with the stay-behind 40-bed slice. Personnel in the stay-behind 40-bed slice must obtain food service support from the 164-bed company or from another unit in the area. The nutrition care section of the 84-bed company has one officer and seven enlisted personnel. The combat support hospital 164-bed company has one officer and 15 enlisted personnel.

DIETITIAN

B-4. The dietitian—

- Formulates policies, develops procedures, and directs and supervises the operation of nutrition care services and the provision of comprehensive nutrition care programs in the deployable hospital.
- Manages medical food preparation and service systems.
- Coordinates and ensures the procurement and receipt of safe, wholesome food items/rations for patients and staff.
- Provides nutrition health promotion programs for the military community and develops and directs nutrition education or dietary intervention programs for the military.
- Assists the physician by providing patient nutritional assessment and therapeutic dietary intervention.
- Serves as a consultant at all levels of nutrition-related health and performance issues and medical food service operation.
- Develops, implements, and directs nutrition and medical food service education programs for nutrition care specialists and other medical personnel.

NUTRITION CARE SPECIALIST

B-5. The nutrition care specialist—

- Performs clinical dietetic functions in the dietary management and treatment of patients and staff.
- Assists in the nutritional assessment and screening of individual patients.

- Assists in the health promotion program activities.
- Prepares, serves, and delivers modified and regular food items in the management of the nutritional needs of patients (across the life span and a diversity of people, cultures, and religions in support of the mission) under the supervision of a dietitian or senior noncommissioned officer.

OTHER PERSONNEL

B-6. It is essential that representatives from the nutrition care section be involved in the initial planning stage of all deployments to ensure the inclusion of nutrition care support requirements. Additional personnel support will be required for sanitation duties and serving food to staff. The number of personnel will be based on mission requirements. This support may come from Soldiers or contracted dining facility attendants. Soldiers assigned for support duties may be unfamiliar with food sanitation principles and will require training and supervision from nutrition support personnel. In operations where civilian-contracted dining facility attendants are available, the chief and noncommissioned officer-in-charge will provide the contracting representative with the number of attendants required, a clear statement of work, and shift schedules. Additionally, interpreter support and translation of work instructions may be required for the contracted attendants.

SECTION II — NUTRITION

NORMAL NUTRITION

B-7. Normal nutrition and assessment are addressed in the American Dietetic Association's (ADA) *Manual of Clinical Dietetics* (hereafter referred to as the ADA Manual). It is not the intent of this appendix to repeat any of the information from the ADA Manual. This appendix provides other sources of information that enhances the application of the ADA Manual procedures for use in a field setting with limited types of food items available to prepare patient meals.

B-8. For military dietary reference intakes (MDRIs) see AR 40-25. The MDRIs are intended for healthy and fit Soldiers performing their mission. The MDRIs are provided in the currently fielded operational rations. Consuming the daily ration provides Soldiers with essential calories, vitamins, and minerals.

NUTRITION AND DISEASE

B-9. The medical nutrition therapy for specific conditions and diagnoses are defined in the ADA Manual. This publication provides dietetic modifications, related physiology, examples of food selection, and adequacy of each therapy.

DIET ORDERS

B-10. The most common diet orders on a deployment are regular, high-calorie—high-protein, clear liquid, and full/blenderized liquid. Use available rations and medical diet supplements to prepare other therapeutic diets listed in the ADA Manual. Foreign humanitarian assistance deployments will be in support of civilians (ages from infants to the very old) for whom a wide variety of dietetic needs will be required. Thus, health care personnel must be prepared to respond to these complex patient needs. Even in war, nutrition care personnel may be required to respond to situations where the very young and the very old require support.

DISEASE AND HEALTH RISK

B-11. Considering worldwide deployments, it is important to understand the diseases and health risks inherent to each country. The dietary habits of the culture impact on foreign humanitarian support missions. When contracting agents hire local civilians to work in the food service facility, there may be additional health risks to the supported population. Preventive medicine personnel should have detailed reports on endemic/epidemic diseases and possibly dietary habits of local civilians in the deployment area. Invaluable information on diseases, injuries, and nutritional requirements in areas of deployment can be obtained from—

- National Center for Medical Intelligence. Website: https://www.intelink.gov/ncmi/index.php.
- United States Army Research Institute of Environmental Medicine. Website: http://www.usariem.army.mil.
- United States Army Medical Research Institute of Infectious Diseases. Website: http://www.usamriid.army.mil.
- United States Army Public Health Command. Website: http://phc.amedd.army.mil.
- World Health Organization. Website: http://www.who.int/en.
- The Centers for Disease Control and Prevention. Website: http://www.cdc.gov.
- Center for Army Lessons Learned. Website: http://call.army.mil.

NUTRITION FOR MILITARY OPERATIONS

Nutrition Guidance

B-12. The U.S. Army Research Institute of Environmental Medicine publishes technical notes that are valued references for nutrition in military operations. The technical notes are periodically updated with new information on nutritional information.

Military Rations

B-13. The rations most often used by deployable hospitals are described below.

Unitized Group Rations™

B-14. The UGRs™ are designed to simplify and streamline the process of providing the highest quality meals in the field. They integrate modules of heat and serve (formerly T-Rations) and A-Rations with quick-prepared, user-friendly brand name commercial products. The UGR™ is used by unit food service facilities to sustain groups of personnel during worldwide operations. Refrigeration is required with UGR-A™, but not with the UGR-heat and serve™. Menus and recipes are included with each module. Each module provides 50 complete meals. The UGR™ requires milk, bread, and cold cereal, in order to provide an average of 1450 kilocalories (commonly referred to as calories). Refer to Army doctrine for additional information on preparing regular diets.

Medical Diet Supplement to the Unitized Group Rations™

B-15. The medical diet supplement list is used in combination with the UGR™ to prepare modified patient diets. The medical diet supplements can be combined with the UGR™ to meet the requirements for high-calorie—high-protein, blenderized liquid, full liquid, and clear liquid diets. The purchase and resupply of these items must be coordinated for during the hospital's predeployment phase.

Meal, Ready-to-Eat™

B-16. The individual MRE™ is a packaged meal designed for issue, either in individual meals or in multiples of three meals for a complete ration. The components are packaged in flexible envelopes with flameless ration heaters. Each meal provides an average of 1250 kilocalories. There are 24 MRE™ menus of which four are vegetarian menus. Each box of 12 MREs™ has two vegetarian menu meals. Under emergency conditions the MRE™ and the medical diet supplements can be combined to meet the requirements for high-calorie—high-protein, blenderized liquid, full liquid, and clear liquid diets.

Nutrition Advice for Field Feeding

B-17. The key issues in field feeding are: dehydration, inadequate energy and carbohydrate intake and gastrointestinal complaints. Even an individual that is mildly dehydrated (body water losses amounting to as little as two percent of body weight) will have impaired performance, reduced appetite, and sluggishness. To prevent diarrhea and constipation, advise Soldiers to hydrate, choose high-fiber foods, eat wholesome foods maintained in sanitary conditions, and avoid eating or drinking locally produced foods

unless approved by veterinary personnel. Stress the value of consuming military rations; they are designed to provide essential food elements. Refer to Figure B-1 for medical field feeding positives and negatives.

Positives	Negatives
DO accentuate the positive aspects of the ration; food is a tactical weapon. It maintains mental and physical performance. Stress the need to consume the full ration. **DO** emphasize water discipline. **DO** provide group/hot meals whenever possible; soldiers tend to eat more when eating "socially." **DO** schedule meal times when possible, even when individual operational rations are the planned meal. **DO** watch to see what the Soldiers are eating. **DO** encourage consumption of the fortified ration components.	**DO NOT** assume that a ration issued is a ration fully consumed. **DO NOT** allow Soldiers to use field exercises or deployments as weight-loss programs. **DO NOT** allow consumption of foods locally procured unless approved by veterinary personnel. **DO NOT** encourage less nutritious food to become a replacement for more nutritious rations. **DO NOT** take nutritional supplements instead of eating meals. **DO NOT** add sugar-sweetened drink mixes or flavorings directly to a canteen, camel back, or bulk water storage containers.

Figure B-1. Medical field feeding positives and negatives

Nutrition Advice Concerning Supplements

B-18. The military rations (with the exception of special purpose rations) are designed to meet Soldiers' nutritional needs. However, many Soldiers are looking for that edge to improve their performance; for guidance on nutrition supplements, refer to Section III.

> ***Note.*** The use of over-the-counter dietary supplements without counseling may cause undesired effects. Products marked for performance enhancement and weight loss contain stimulants that may result in adverse events to include dehydration, dizziness, palpitations, high blood pressure, stroke, and/or heart attack. Furthermore, exercise, dehydration, caffeine, and some medications (to include over-the-counter medications) used in conjunction with these products will increase the risk of these adverse side effects, as well as the severity.

Nutrition Advice for Military Operations in a Hot Environment

B-19. The nutritional concerns in hot environments include: dehydration, inadequate food intake, and waterborne and foodborne illnesses. Most individuals' appetite may be suppressed during their first eight days of exposure to a hot environment. To maintain adequate sodium or salt intake, individuals should eat at least two meals a day. To prevent dehydration individuals should follow the water consumption rates as described in Army doctrine publications on field hygiene and sanitation. Refer to Figure B-2 for hot weather hydration and nutrition positives and negatives.

Positives	Negatives
DO coordinate drinking and work/rest cycles. **DO** maintain and enforce routine water and food discipline. **DO** provide adequate quantities of potable, palatable water. **DO** instruct Soldiers to monitor the color and relative volume of their urine to check for dehydration. **DO** monitor weight loss if possible. **DO** eat slightly more food than usually eaten in garrison. **DO** encourage consumption of at least two meals per day to replace the salt lost in sweat. **DO** encourage consumption of complex carbohydrate foods and beverages. **DO** establish specific meal times and have Soldiers continue to consume snack foods throughout the day as time permits.	**DO NOT** allow Soldiers to become dehydrated. **DO NOT** eat foods that are salty or high in protein if water is not available. **DO NOT** use the deployment to a hot environment as an opportunity to start a new diet. **DO NOT** skip meals. **DO NOT** consume unsanitary (untreated) ice. **DO NOT** eat uncooked or unpeeled fresh fruits and vegetables that have not been sanitized during operations in developing countries.

Figure B-2. Hot weather hydration and nutrition positives and negatives

Nutrition Advice for Military Operations in a Cold Environment

B-20. The MRE™ is the most common individual ration that Soldiers receive during cold-weather operations. Three to four standard MREs™ per day (1,300 kilocalories per MRE™) must be eaten to supply a Soldier with the necessary 4,200 to 4,500 calories required during cold weather, if no other rations are provided. The First Strike Ration® is a compact, eat-on-the-move assault ration. The First Strike Ration® is substantially reduced in weight and cube (over the MRE™) and enhances Soldier consumption, nutritional intake, and mobility. The First Strike Ration® contains an average of 2,900 calories per day during cold-weather operations (two First Strike Rations® would provide adequate calories [5,800]). The First Strike Ration® is designed to enhance snacking, which would be beneficial to maintaining adequate calorie intake in a cold-weather operation. Both the MRE™ and First Strike Rations® include liquid-containing components that can freeze during cold-weather operations, if these items are not kept warm by carrying them inside the clothing.

B-21. The meal, cold weather/food packet, long-range patrol, provides an operational ration for two separate operational scenarios. The meal, cold weather is intended for cold-weather feeding, it will not freeze and supplies extra drink mixes for countering dehydration during cold-weather activities. It can be issued at 3 per day for a complete cold-weather ration. Each menu bag provides approximately 1,540 kilocalories (15 percent protein, 35 percent fat, and 50 percent carbohydrate). One menu bag is used for the food packet, long-range patrol, which is a restricted calorie ration that is designed to be used as one menu bag for one Soldier per day. During cold-weather operations the meal, cold weather requires three menu bags per person per day and provides for 4,500 kilocalories that are necessary to replenish loss of energy from exertion in extreme cold. The meal, cold weather/food packet, long-range patrol, is a dehydrated ration which requires an average of 34 ounces (1 canteen) of water per individual menu bag. Three meal bags per day are required to meet the nutritional requirements of the environment; approximately 102 ounces of water per day will be needed to rehydrate the food when using the meal, cold weather/food packet, long-range patrol. An additional 1 to 3 quarts are required to be drunk by the Soldier throughout the day when using the meal, cold weather/food packet, long-range patrol. Refer to Figure B-3 for the cold-weather nutrition positives and negatives.

Positives	Negatives
DO eat 10 to 40 percent more calories than usually eaten in garrison. **DO** heat food and beverages at every opportunity prior to eating. **DO** drink more than thirst dictates. **DO** eat snacks between meals and before going to sleep.	**DO NOT** use snow and ice for moisture. **DO NOT** adopt bizarre dietary habits (such as eating only meat and butter) just because of being in the cold. **DO NOT** take multivitamin tablets to ward off cold stress. **DO NOT** eat food cold because of being too busy to eat it when it is hot or too busy to stop and heat the food item. **DO NOT** use field training exercises in cold weather as an opportunity to lose weight. **DO NOT** consume alcohol to ward off cold.

Figure B-3. Cold-weather nutrition positives and negatives

Nutrition Advice for Military Operations in a High-Altitude Environment

B-22. Nutritional concerns in high-altitude operations include weight loss, low-carbohydrate intake, dehydration, and gastrointestinal complaints. The cold temperatures combined with the physical demands of activities over rugged terrain increase energy expenditures to as much as 6,000 kilocalories per day. Acute mountain sickness decreases the appetite; a high-carbohydrate diet may be better tolerated by individuals with acute mountain sickness. High altitudes increase dehydration. Refer to Figure B-4 for high-altitude nutrition positives and negatives.

Positives	Negatives
DO monitor weight loss, if possible. **DO** emphasize a high-carbohydrate diet, preferably complex carbohydrates. **DO** serve at least one hot meal a day. **DO** discourage high-fat snack foods. **DO** encourage consumption of portions of all ration components. **DO** schedule and enforce drinking, making sure Soldiers drink at least 4 to 6 quarts of beverages a day. **DO** provide a variety of noncaffeinated beverages. **DO** monitor the color and volume of urine to check for dehydration. **DO** discourage alcohol consumption.	**DO NOT** allow Soldiers to use a mountain exercise as an opportunity to lose weight. **DO NOT** skip meals. **DO NOT** fill up on high-fat foods. **DO NOT** force food when nauseous or vomiting. **DO NOT** drink unpurified water or melted snow. **DO NOT** restrict water intake in order to save it for later or avoid having to urinate.

Figure B-4. High-altitude nutrition positives and negatives

THE CLINICAL DIETETICS PROCESS

B-23. The clinical dietetics process is the systematic process of providing nutritional care to patients. The process begins with the patient being admitted to the hospital and ends when the patient is discharged as outlined below—

- The patient is admitted to the hospital, a diet order is written, and the ward diet roster is updated.
- Nutrition care personnel complete the patient nutrition screening within 24 hours; document in medical record.

- Initiate medical nutrition therapy protocol based on nutrition screening.
- Interview patient for food preferences and tolerances.
- Create menu and give to patient tray service personnel.
- Document nourishments and forced fluids requirements.
- Deliver meals and nourishments to patients.
- Monitor changes to diet order.
- Conduct daily follow-ups on high/medium risk patients and on all patients every 5 to 7 days of hospitalization, patient load permitting.

Clinical Dietetics Documentation

B-24. The form needed for the clinical dietetics process is DA Form 1829 (Hospital Food Service – Ward Diet Roster) (see DA Pam 25-30). Refer to Figure B-5 for sample nutrition risk factor criteria. During foreign humanitarian assistance situations, refer to the references in this manual for appropriate references on screening and nutrition therapy.

High risk	Moderate risk
System/disease states: ● Combat injuries/diseases. Gunshot wounds to the abdomen; fracture of head, neck, or jaw; closed head injury; multiple trauma; respiratory failure (on ventilator); bowel obstruction; sepsis; malaria; anthrax; dengue. ● Stability tasks. Acquired immune deficiency syndrome/human immuno-deficiency virus; anorexia/bulimia; cancer; colitis; chronic obstructive pulmonary disease; Crohn's disease; decubitus ulcer; diabetes (new or uncontrolled); diverticulitis; dysphagia; esophageal stricture; gastric bypass; gastrointestinal bleed; inflammatory bowel disease; Leforte (wired jaw); malignant hypertension (crisis or uncontrolled); nonhealing wound; pancreatitis; pericarditis; pulmonary edema; renal failure.	System/disease states: ● Anemia ● Ascites ● Congestive heart failure ● Dehydration ● Peptic ulcer disease ● Sigmoidectomy
Weight history: 10 percent weight loss in one month	Weight history: 5 percent weight loss in one month
Laboratory values: albumin 3.0 grams/deciliter or less	Laboratory values: albumin 3.1 to 3.5 grams/deciliter
Age: Over 75 years; Under 12 years	Age: Over 65 years
Feeding modalities: ● Parenteral nutrition ● Tube feeding ● Nothing by mouth and/or clear liquids for more than 3 days ● By mouth intake inadequate	Feeding modalities: ● Transitional feedings (stable) ● Nothing by mouth for 3 days ● By mouth intake inadequate
Procedures: major surgery	Procedures: rehabilitation

Figure B-5. Sample nutrition risk factor criteria

Patient Feeding Policy

B-25. The Army Patient Feeding Policy mandates three hot meals a day. In emergencies, patients may be served MREs™.

Common Diet Orders and Preparation

B-26. See Section III for a brief description of the most common diet orders and preparation tips using the UGR-A™, and UGR-Heat and Serve™.

Menu Patterns

B-27. See Section III for menu pattern to provide special diets using UGR-A™ and UGR-Heat and Serve™ with addition of medical diet supplement.

Procedures for Adjusting Meal, Ready-to-Eat™ for Use in Patient Feeding

B-28. Occasionally an operation will happen so quickly that logistics only allows for shipment of MRE™ rations at the start. Also, the hospital may have to initiate operation using the chemically biologically protected shelter system and the nutrition care section will have to discontinue operations in the modular field kitchen until normal operations resume. Refer to Army medical doctrine on feeding patients in a CBRN environment. One technique to ensure that a temporary supply of medical diet supplements is available is to include at least a footlocker or Number 3 medical chest full of medical diet supplements with the unit personnel's baggage. While these are intended to supplement the UGR-A™ or UGR-Heat and Serve™, the medical diet supplements will also help adjust MREs™ to patient needs. See Section III for examples on adjusting the MRE™ for therapeutic diets.

Procedures for Feeding Patients Using a Contract Food Service

B-29. When a contracted dining facility provides the hospital staff and patients with food and food service supplies, a dietitian and the appropriate number of nutrition care specialists must be deployed to ensure that the required patient nutritional services are met. Research the provisions of the contract prior to deploying. If the contract provides only some of the foods listed in the medical diet supplement, then arrange with the deploying food advisor or supply officer to order the remaining items. The team should—

- Set up an area on or near the wards to assemble patient meals and nourishments. The minimal equipment required for this setup is a table, serving supplies, refrigerator, a blender, rodent-proof containers for nourishments, and shelves.
- At a minimum, they should use the contractor's daily menu and make modifications for patient diets. Turn in meal tickets to the contract staff to fill the order. Also, establish a system to order and pick up food from the contract dining facility. Carry the covered food from the contract facility to the hospital in boxes or insulated containers. Assemble the patient trays in the pantry and deliver to the patient.
- Establish a method for disposing of patient trays and other waste.

HEALTH PROMOTION AND NUTRITION EDUCATION

B-30. A strong and fit Soldier is less likely to be injured accidentally; can more readily withstand exposure to disease and stress; and will require less recovery time for wounds, injuries, or illnesses. Maintaining a healthy and fit body enables the individual to support the unit in accomplishing its mission.

B-31. Health concerns mind, body, and spirit; therefore, a multidisciplinary team must work together to develop a complete program. Depending on the health promotion program planned and available providers, team members may include nutrition care, physical therapy, combat and operational stress control, chaplain, preventive medicine, and nursing personnel and physicians.

B-32. To have an effective health promotion program several steps must be accomplished. They include, but are not limited to—

- Conduct a population assessment.
- Establish goals and objectives.
- Plan the program.
- Conduct the program.
- Document the programs successes and failures.

- Make changes to the program to emphasize the successes and eliminate the failures for future use in the program.

SECTION III —SUPPLEMENTAL INFORMATION ON NUTRITIONAL SUPPORT

NUTRIENT SOURCES AND FUNCTIONS

B-33. Nutritional care is a critical part of patient care; providing the correct nutritional care enhances the patient's recovery. To meet this need, nutritional care personnel must ensure that foods served to the patients meet their nutritional requirements. Knowing the nutrient functions of various food items enables nutritional care personnel to meet these needs. See Table B-1 for an overview of the nutrient sources and functions of food items in A-rations, MREs™, and UGR-Heat and Serve™.

Table B-1. Nutrient sources and functions

Nutrient	*Function*	*Garrison/Unitized Group Ration™*	*Meal, Ready-to-Eat™*	*Unitized Group Ration-Heat and Serve™*
Protein	Build and maintain tissue; regulate water balance; formation of hormones, enzymes, and antibodies; excess intake used as energy	Meat, fish, cheese, milk, poultry, eggs, whole grains, nuts, and beans	Entrées, cheese, peanut butter	Meats, entrées, milk, cheese, peanut butter
Carbohydrates	Primary energy source; dietary fiber (nondigestible carbohydrate) assists the digestive system	Whole grains, sugars, fruits, vegetables	Desserts, fruits, cocoa, candy, beverage base (sugar-sweetened)	Pudding, cakes, rice, potatoes, lasagna, bread
Fat	Provide energy; supply fatty acids for cell membranes; absorption of fat-soluble vitamins	Oils, butter, cheese, nuts, margarine, salad dressings	Peanut butter, entrées, cheese	Breakfast entrées
Water	Transport of vital substances throughout the body; regulation of normal body temperature	Beverages of any kind, foods with high water content (especially fresh fruits and vegetables)	Beverages, entrées, wet-packed fruits	Beverages, entrées, fruits
Calcium	Build and maintain teeth and bones; normal blood clotting; muscle contraction; healthy cell membranes	Milk, green leafy vegetables, shell-fish, dried beans	Crackers, cheese, cocoa	Lasagna, milk, cheese, macaroni and cheese
Phosphorous	Build bones and teeth; release energy from carbohydrates, fats and protein; form genetic materials, cell membranes and many enzymes	Fish, meat, poultry, eggs, legumes, milk, nuts, and whole grains	Beef entrées, cheese spread	Lasagna, potato dishes, chicken

Table B-1. Nutrient sources and functions (continued)

Nutrient	*Function*	*Garrison/Unitized Group Ration™*	*Meal, Ready-to-Eat™*	*Unitized Group Ration-Heat and Serve™*
Magnesium	Build bone and protein; release energy from muscle glycogen; regulate body temperature	Leafy green vegetables, milk, nuts, corn, soybeans, seeds, whole grains	Peanut butter, entrées, chocolate mint pound cake, nut-raisin mix, cocoa, coffee	Meats/entrées, bread, cocoa
Iron	Help blood supply oxygen to cells; part of some proteins and enzymes	Red meat, liver, kidneys, egg yolks, leafy green vegetables, dried beans and peas, dried fruits, potatoes, whole grains	Entrées, cake, fudge brownies, crackers, nutrigrain bar, sport bar, toaster pastry	Entrées, fortified breakfast cereal
Zinc	Essential role in formation of protein (wound healing, tissue growth); component of numerous enzymes	Oysters, meat, liver, eggs, poultry, seafood, seeds, dried beans, whole grains, and milk	Entrées, nutrigrain bar	Beef entrées
Sodium	Regulate body fluid volume and blood acidity; transmission of nerve impulses	Salt, salted snacks, soy sauce, tomato juice, canned and processed foods	Salt, entrées, crackers with peanut butter, pretzels, rice dishes	Salt, spaghetti, omelets, rice
Potassium	Muscle contraction; maintain fluid and electrolyte balance; transmission of nerve impulses; release of energy from carbohydrate, fat, and protein	Orange juice, bananas, dried fruits, seeds, potatoes, meats, bran, peanut butter, dried peas and beans, coffee, tea	Entrées, cocoa, peanut butter, fruits, nut-raisin mix	Beef and pork entrées, milk, orange juice, peanut butter, potatoes
Vitamin C	Formation of collagen (structure of bones, cartilage, muscle); maintain small blood vessels, bones, and teeth, aid iron absorption	Citrus fruits, tomatoes, strawberries, green peppers, potatoes, dark green leafy vegetables	Fruits, cocoa, peanut butter, cheese, beverage base (sugar-sweetened)	Beverage base, cocoa, cheese, peanut butter
Vitamin B_1 (Thiamin)	Release energy from carbohydrate; normal function of the nervous system	Pork, liver, oysters, enriched cereals, oatmeal, pasta, bread, milk, leafy green vegetables, whole grains	Cocoa, crackers, cheese, peanut butter, nutrigrain bar	Cheese, cocoa, peanut butter, hamburger rolls
Vitamin B_2 (Riboflavin)	Release energy from carbohydrate, protein, and fat	Whole grains, enriched breads and cereals, liver, meat, dark green leafy vegetables, fish, poultry, egg yolk	Crackers, entrées, nutigrain bar	Lasagna, chicken dishes, fortified breakfast cereals, milk, ham/eggs, pork with barbeque sauce

Table B-1. Nutrient sources and functions (continued)

Nutrient	*Function*	*Garrison/Unitized Group Ration™*	*Meal, Ready-to-Eat™*	*Unitized Group Ration-Heat and Serve™*
Niacin	Works with thiamin and riboflavin for energy production	Liver, tuna, poultry, enriched bread and cereals, meat, nuts, dried peas and beans, pasta	Entrées, crackers, nut-raisin mix, peanut butter	Entrées, bread
Vitamin B_6 (Pyridoxine)	Formation of certain proteins; aid in use of fats	Whole grains, meat, eggs, fruits and vegetables, liver, fish, poultry, cereals and bread, nuts	Cheese, cocoa, entrées, crackers	Cheese, beef, hash, cocoa, chicken breast and gravy
Folacin	Formation of hemoglobin in red blood cells; formation of genetic material	Whole grains, enriched cereals, dried beans, leafy green vegetables, liver	Burrito, entrées with pasta or rice, nut-raisin mix, rice	Lasagna, pork with barbeque sauce, western omelet, orange juice, fortified breakfast cereals, pasta and rice dishes
Vitamin B_{12}	Red blood cell formation; normal function of nervous system; assists in building genetic material	Milk, cheese, eggs, meat, fish, oysters	Entrées with meat or cheese	Pork with barbeque sauce, chili, entrées with beef, pork, poultry, or cheese
Vitamin A	Healthy skin, hair, mucous membranes, teeth and bones; aid night vision	Liver, eggs, cheese, butter, milk, fruits and vegetables	Entrées with cheese or vegetables, cocoa, peanut butter, nutrigrain bar, toaster pastry	Carrots, peas/carrots, cocoa, cheese, beef stew, entrées with cheese or vegetables
Vitamin E	Protect Vitamin A and fatty acids from oxidation; prevent cell membrane damage	Vegetables, oils, margarine, green vegetables, whole grain, cereals and breads, liver	Meatballs with rice, beef stew, fudge brownie, nut-raisin mix, peanut butter, peaches	Omelets, pound cake, lasagna, beef stew, peaches, peanut butter
Note: For information on recommended intakes of nutrients, refer to AR 40-25.				

MEDICAL DIET SUPPLEMENTS

B-34. The medical diet supplement, used in combination with the MRE™ and UGRs™ provides commercial semiperishable food components required to prepare therapeutic diets. Each medical diet supplement supports 50 patients for a 15-day period based on the following diet mix: 28 regular; 5 high-calorie—high-protein; 11 blenderized liquid; and 6 clear liquid. The medical diet supplement is ordered from Defense Supply Center Philadelphia with the National Stock Number: 8970-01-470-5077. If necessary, individual components may be ordered separately.

B-35. Enteral feeding products can be ordered through the medical supply section of the hospital. Coordination for ordering components of the medical diet supplement and enteral feeding products should be done prior to any exercise or deployment.

THERAPUETIC DIET MENUS

B-36. The medical diet supplements are used to provide therapeutic diet menus for patients with components of the MRE™ and UGRs™ to promote acceptability and nutritional adequacy of the hospital

diet. The diet distribution is estimated for the population. Exact distribution may vary with the scenario and type of military operation.

THERAPUETIC DIET PREPARATION

B-37. Therapeutic diets are prepared to accommodate each patient's diet order as stated in the patient's medical record and recorded on the patient ward roster. These diets may be modified to meet the patient's particular medical conditions and personal requests. The ADA Manual is the primary reference for therapeutic diet instructions. The menu components for these diets come from the MRE™, UGRs™, and the medical diet supplement list.

REGULAR DIET

B-38. This diet will use the standard MRE™ or UGR™ menu with bread, milk, and cereal. Enhancements should be incorporated into the diet plan as soon as they are available, such as fresh fruits and salads. Between-meal snacks may be incorporated into the diet upon request. Patient preferences should be incorporated into the meal plan to the maximum extent possible.

CLEAR LIQUID DIET

B-39. This diet is intended to supply fluid and energy in a form that requires minimal digestion. It consists primarily of broth, gelatin, and juice. The orange juice is strained before it is served to the patient. If refrigeration is unavailable, the gelatin can be served in a liquid form. Carbonated beverages can be added to the diet, when available. Between-meal feedings are encouraged.

BLENDERIZED LIQUID DIET

B-40. This diet is designed to provide adequate calories, protein, and fluids for patients who are unable to chew, swallow, or digest solid foods. This diet consists of fluids and foods blenderized to a liquid form. The viscosity of blended items ranges from the thickness of fruit juice to that of cream soup. Frequent small feedings may be necessary to facilitate ingestion of adequate calories and protein these meals are highly perishable and must be served quickly to prevent foodborne illnesses.

MECHANICALLY ALTERED DIET

B-41. This diet is designed to minimize the amount of chewing necessary to ingest food. This diet includes food modified only in texture, such as blended, chopped, ground, and pureed foods to promote ease of chewing. All vegetables included should be well-cooked to minimize the need for chewing. Most raw fruits and vegetables are excluded. Spices are encouraged to increase palatability of the diet. Between-meal snacks may be arranged upon request. These meals are highly perishable and must be served quickly to prevent foodborne illnesses.

LOW SODIUM DIET

B-42. This diet is used to promote management of hypertension. Due to the high number of canned and instant food items found in the UGRs™ and the contents of MRE™, a highly restrictive sodium diet is not possible without severely compromising caloric and other nutrient needs. When available, use fresh vegetables in the place of canned vegetables. If canned vegetables must be used, rinse and drain them to reduce the sodium content. Between-meal snacks may be arranged upon request.

CARDIAC DIET

B-43. This diet is designed to reduce elevated serum cholesterol and promote healthy eating. It consists of modifications in total fat, saturated fat, cholesterol, sodium, caffeine, and fiber. All meat entrées should be as lean as possible (trimming fat, removing skin from chicken, using minimal fat in preparation, and draining fat off of products). Lower fat entrées from the MRE™ may be an acceptable substitute for some of the highest fat entrées in the UGR™, for example, the bean and rice burrito could be substituted for chili

con carne. Low sodium cooking methods are used. Avoid soups and broths; they are high in sodium content. Use fresh fruits and vegetables to replace canned fruits and vegetables, whenever available. Increase fiber with whole grain products when available. Dessert items may be added to the menu plan depending on the item content and diet restrictions. Between-meal snacks may be arranged upon request.

HIGH-CALORIE—HIGH-PROTEIN DIET

B-44. This diet is designed to provide additional calories and protein to the regular diet. The additional calories are primarily in the form of added fruit and extra bread. The additional protein is provided by increasing entrée portion sizes and including a medical diet supplement high-protein beverage or a milk shake as a between-meal snack. Milk shakes may be made using milk, instant breakfast, flavored syrups, and fruits.

DIABETIC DIET

B-45. This diet is used to improve blood glucose levels and control diabetes. It is set up as three meals and 1- to 3-snack regimes consisting of approximately 2200 calories. Most of the cardiac modifications including low fat, low sodium, and high fiber should be followed. Meals should be set up around 60 to 75 grams of carbohydrates and snacks should contain 15 to 30 grams of carbohydrate until modified by a dietitian. One starch, fruit, or milk exchange contains 15 grams of carbohydrate.

TUBE FEEDING

B-46. Tube feeding is a highly specialized diet tailored to meet the needs of a small population of patients that must be close coordinated with the medical staff. Commercial tube-feeding formulas are the preferred menu item. However, commercially prepared formulas may not always be available when needed. To prepare tube-feeding menu items a powdered commercial nutrition drink is the optional ingredient if available. Nutrition care specialists reconstitute the powdered commercial product. For preparation, all equipment must be properly sanitized and the product refrigerated immediately after preparation. Limit the contents of each tube-feeding package based on the hourly rate of feeding; tube feedings should hang less than 4 hours at room temperature. Due to limited refrigeration on the wards, progressive preparation and delivery of tube feedings to the wards will be necessary. Additional powdered commercial tube feedings are available as a standard subsistence (National Stock Number 8940-01-304-3620) or medical supply item ordered through the pharmacy.

RECIPE MODIFICATION

B-47. Providing food items for patients needs includes making modifications not normally needed for standard menus. Consult the ADA Manual for information on modifying recipes for consistency. Principles for modifying a recipe for consistency include, but are not limited to—

- Modifying UGR™ items for consistency.
- Checking the ADA Manual and the menu patterns shown in Tables B-2 and B-3 for foods allowed on each diet type.
- Cutting meat items into bite-sized pieces, grinding or pureeing meats for consistency.
- Blenderizing foods with additional liquids until the required consistency is reached.
- Using liquids that add calories (such as gravy, soup, sauce, milk, or juice) for thinning.
- Using heated liquids for thinning if the blended item is a hot food item.
- Pouring the blended and thinned food item through a strainer to remove lumps.
- Ensuring that proper consistency of the final product is—
  - Thick enough to coat a spoon like a sauce or gravy; but thin enough to flow through a straw freely.
  - At the correct serving temperature after blending, thinning, and straining.
  - Blended with seasonings so that it is not bland (such as adding garlic powder to pureed meats).

SUPPLEMENTAL FLUIDS

B-48. An estimated 40 to 50 percent of all patients will need supplemental fluids. Have milk and juice available at most meals. The UGRs™ also contain a fruit-flavored beverage that can be used to meet fluid requirements. These beverages, along with water, can also be made available for between-meal nourishment.

NOURISHMENTS AND SNACKS

B-49. Nourishments and snacks are important elements of therapeutic diets. They should be served three times per day, midway between meals and in the evening. Many of the snack items listed on the therapeutic menus are prepared from the UGRs™ of the previous meal, for example, the peanut butter and jelly from the lunch UGR™ for the mechanically altered diet is saved and used as the afternoon snack. Patient nourishments and snacks will need to be distributed to the wards three to four times a day by nutrition care specialist. Patients should not go more than 8 hours without nourishment.

Table B-2. Medical field feeding meal pattern guideline using the Unitized Group Ration™

Breakfast				
****Diet food***	***High-calorie—high-protein (provide instant breakfast at 1000 and 1400 hours)***	***Blenderized liquid (consistency—able to pass through a straw)***	***Clear liquid***	*****Diabetic***
Eggs	½ cup	Blenderized scrambled eggs	None	½ cup serving
Breakfast meat	2 sausage patties or 3 bacon slices	Blenderized into eggs	Broth	1 sausage patty or 1 bacon slice
Starch (potato, hot cereal, waffle, or pancake)	½ cup serving or more	Blenderized starch of the day	½ cup gelatin	½ cup (1 carbohydrate choice)
Gravy or sauce (if available)	2 ounces or more	Use to thin entrée	None	None
Fruit or juice	½ cup serving or 6 ounces juice	Blenderized fruit of the day	2 each of 6 ounces juice (strained)	½ cup canned fruit or 1 piece fresh fruit or ½ cup juice (1 carbohydrate choice)
Pastry, roll, or biscuit and margarine	1 with margarine	No breads, 2 margarines	None	1 Slice plain bread or 1 biscuit (1 carbohydrate choice) and 1 margarine
Beverages allowed	Milk, instant breakfast, cocoa, tea, coffee, soda, water	Milk, instant breakfast, cocoa, tea, coffee, soda, water	Tea, coffee, soda, water	Unsweetened or artificially sweetened beverage, low-fat milk (8 ounces = 1 carbohydrate choice)
Accessories	Salt, pepper, sugar	6 straws, salt, pepper, sugar	2 straws	1 straw, artificial sweetener, salt, pepper

Note: *Regular diet follows Unitized Group Ration™ menu for items and serving sizes.
**Diabetic meals should have four carbohydrate choices per meal, adjust offerings to patient preferences.

Table B-2. Medical field feeding meal pattern guideline using the Unitized Group Ration™ (continued)

Lunch/Dinner				
***Diet food**	***High-calorie—high-protein (provide instant breakfast at 1000 and 1400 hours)***	***Blenderized liquid (consistency—able to pass through a straw)***	***Clear liquid**	****Diabetic**
Entrée (meat, poultry, fish)	At least 4 ounce serving	Blenderized entrée of the day	Broth	3 to 4 ounce serving
Starch (potato, pasta, rice, beans, legumes)	½ cup serving	Blenderized starch of the day	None	½ cup (1 carbohydrate choice)
Gravy or sauce	2 ounces or more	Use to thin entrée	None	None
Vegetable	½ cup serving	Blenderized vegetable of the day	None	½ cup nonstarchy vegetable tossed salad, if available
Fruit	½ cup serving	Blenderized fruit of the day	2 each of 6 ounces juice (strained)	½ cup canned fruit or 1 piece fresh fruit (1 carbohydrate choice)
Dessert	½ cup serving	Blenderized cake or thinned pudding	½ cup gelatin	None
Bread and margarine	1 or 2 servings with margarine	No bread 2 margarine	None	1 slice or ½ bun (1 carbohydrate choice) 1 margarine
Beverages allowed	Milk, instant breakfast, cocoa, tea, coffee, soda, water	Milk, instant breakfast, cocoa, tea, coffee, soda, water	Tea, coffee, soda, water	Unsweetened or artificially sweetened beverage low-fat milk (8 ounces = 1 carbohydrate choice)
Accessories	Salt, pepper, sugar	At least 6 straws, salt, pepper, sugar	2 straws	1 straw, artificial sweetener, salt, and pepper

Note: *Regular diet follows Unitized Group Ration™ menu for items and serving sizes.
**Diabetic meals should have four carbohydrate choices per meal, adjust offerings to patient preferences.

Table B-3. Adjusting Meal, Ready-to-Eat™ for blenderized liquid therapeutic diets

	Regular	*Clear liquid*	*Blenderized liquid*	**Diabetic*	***Cardiac patient*
Entrée	Heat entrée	Do not serve entrée. Use broth from the medical diet supplement	Do not serve entrée. Use broth from medical diet supplement, make cream soups, if available	Serve 3 ounce portion size for entrées	Serve 2 to 3 ounce portions of entrées. The sodium content is high for most entrées
Side dishes	Pasta, rice, potatoes all acceptable	Do not serve any solid foods	Prepare thinned strained hot cereals, if available	Serve ½ cup portion sizes for starches	Pasta, rice, and potatoes all acceptable with exception of sodium content of many; add fresh vegetables when available
Dessert	Meal, ready-to-eat™ dessert is acceptable; add fruit if available	Make gelatin from medical diet supplement	Prepare instant breakfast, milk shakes, and gelatin from medical diet supplements	Cakes, cookies, brownies, and candies will generally push the patient above the 60 to 70 grams of carbohydrates per meal; rinse the thermo-stabilized fruits to remove the sauce	Add fresh fruits when available; use meal, ready-to-eat fruits, fig bars, and nutrigrain bars. Other desserts are high in fat and should be limited
Bread and spread	Add bread, if available; crackers are acceptable	Do not serve solid foods	Do not serve solid foods	Approximately 1 cracker or ½ a pouch bread = 15 grams carbohydrates, work in diet as able; peanut butter and cheese spreads allowed; do not serve jelly	Bread and crackers acceptable; peanut butter and cheese spreads are high in fat

Note: One starch, one fruit, or one milk exchange contains 15 grams of carbohydrate. See the ADA Manual for serving sizes and lists.
*For diabetic diets, serve 3 meals and 3 snacks a day. Save components of meal, ready-to-eat for snacks. Goal is 60 to 70 grams of carbohydrate per meal and 15 to 30 grams per snack.
**For cardiac diets, reduce total fat, saturated fat, cholesterol, sodium, and caffeine. Increase fiber.

Table B-3. Adjusting Meal, Ready-to-Eat™ for blenderized liquid therapeutic diets (continued)

	Regular	***Clear liquid***	***Blenderized liquid***	****Diabetic***	*****Cardiac patient***
Beverage	Add milk as available; prepare beverage base for patient	Serve clear juices as available; prepare beverage base for patient	Serve juices as available; prepare beverage base for patient; add milk to diet; cocoa is acceptable	1 cup ultrahigh temperature milk; ½ cup portions of juice and unlimited water can be served. Eliminate all sugar-based beverages	Serve the lowest fat ultrahigh temperature milk available; prepare beverage base for patient; add milk to diet; cocoa is acceptable
Accessory package	No restrictions on accessories, unless low caffeine is ordered	Coffee, tea, apple cider all usable	Coffee, tea, apple cider all usable	Coffee is usable; remove sugar packet and tea with sugar added	Clarify caffeine restriction with physician; generally no or very limited coffee and tea served; apple cider is acceptable

Note: One starch, one fruit, or one milk exchange contains 15 grams of carbohydrate. See the ADA Manual for serving sizes and lists.
* For diabetic diets, serve 3 meals and 3 snacks a day. Save components of meal, ready-to-eat for snacks. Goal is 60 to 70 grams of carbohydrate per meal and 15 to 30 grams per snack.
**For cardiac diets reduce total fat, saturated fat, cholesterol, sodium, and caffeine. Increase fiber.

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Appendix C

Mild Traumatic Brain Injury/Concussion

C-1. Mild traumatic brain injury/concussion is an invisible injury resulting from not only the signature weapons of Operation Enduring Freedom, Operation Iraqi Freedom, and Operation New Dawn—improvised explosive devices and rocket-propelled grenades—but also from blows to the head during activities or contact sports. Mild traumatic brain injury/concussion is a disruption in brain function as a result of an external force, typically from a blow or jolt to the head. Mild traumatic brain injuries/concussions are usually treatable and the overwhelming majority of Soldiers fully recover; however, receiving prompt care regardless of injury severity is essential in maximizing recovery. The diagnosis of concussion is made when two conditions are met. In the absence of documentation, both conditions are based on self-reported information. An injury event must have occurred and the individual must have experienced one of the following:

- Alteration of consciousness lasting less than 24 hours.
- Loss of consciousness, if any, lasting for less than 30 minutes.
- Memory loss after the event, called posttraumatic amnesia, that lasts for less than 24 hours.
- Normal structural neuroimaging.

C-2. The brain needs rest and time to recover after a concussion and it is extremely important to avoid a second injury while the brain is healing. Recovery time after concussion varies based on injury circumstances, the Soldier's medical history, and recovery from prior injuries. Leaders at all echelons need to recognize the effects of mTBI/concussion and how factors such as sleep-deprivation, nutrition, emotional trauma, and musculoskeletal injury influence concussion recovery.

C-3. Early intervention, education, and treatment are the cornerstones to maximizing full recovery. Mild traumatic brain injury/concussion symptoms can significantly impact not only personal and unit safety, but also operational effectiveness. Table C-1 describes how the symptoms of mTBI/concussion can affect the Soldier and impact the combat mission.

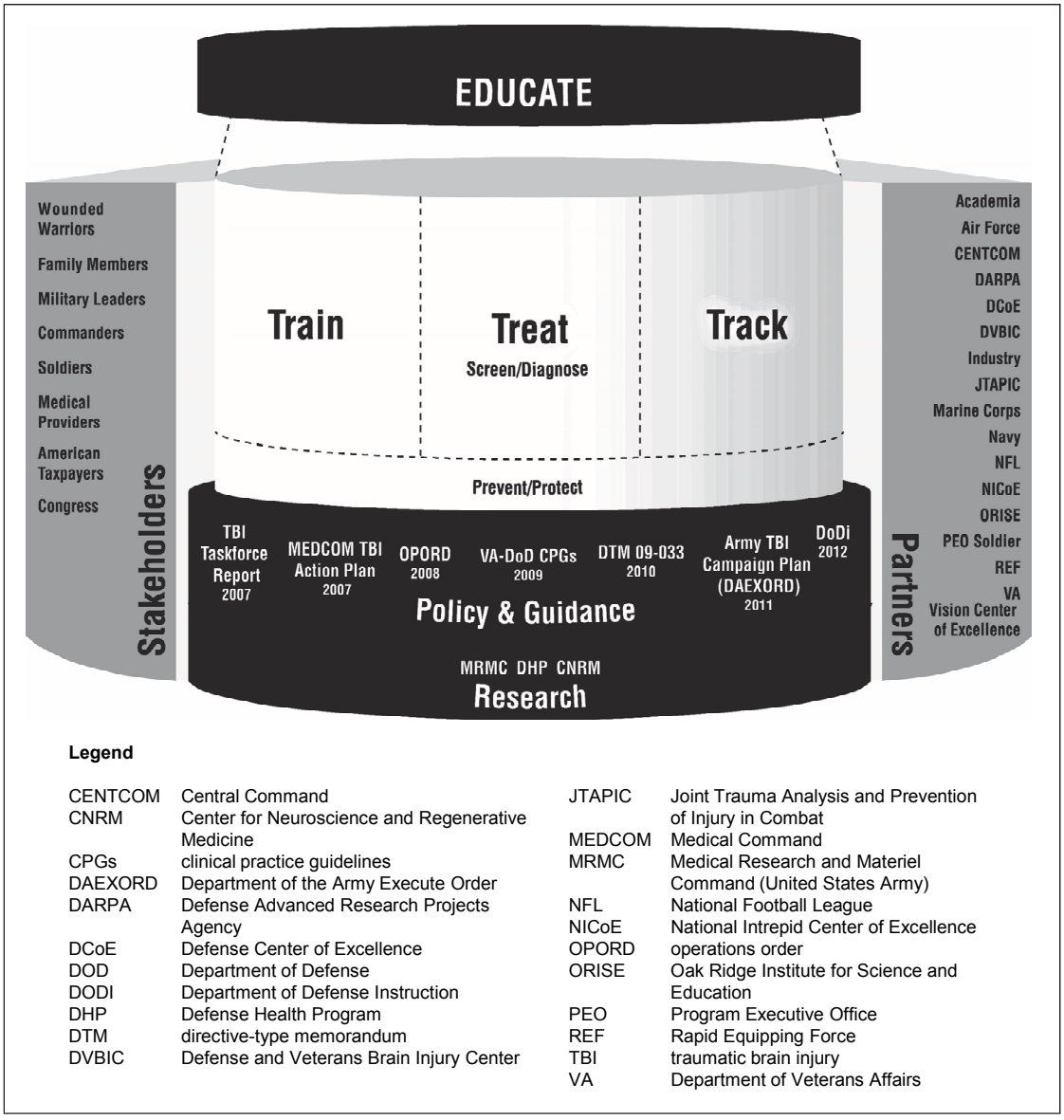
Table C-1. How mild traumatic brain injuries/concussions can affect the Soldier and combat mission

Symptoms	*Manifestation*	*Operational impact*
Headache	Decreased energy	Marksmanship difficulties
Sleep disturbance	Difficulty sleeping	Decreased awareness
Difficulty finding words	Slower reaction time	Difficulty performing quickly under time pressures
Balance difficulties	Change in walking patterns	Difficulty navigating uneven terrain
Light sensitivity, ringing in the ears	Easily distracted	Difficulty multitasking
Slowed thinking, poor concentration	Difficulty processing multiple sources of information	Difficulty performing in certain operational environments
Irritability, mood swings, anxiety	Interpersonal problems	Performance difficulties can affect confidence and self-esteem

ARMY ENTERPRISE MANAGEMENT STRATEGY FOR MILD TRAUMATIC BRAIN INJURY/CONCUSSION

C-4. In 2009, the Army implemented a comprehensive mTBI/concussion management strategy and trained the 101st Airborne Division and U.S. Marine Corps on line and medical responsibilities prior to deployment to Afghanistan. The 1st Cavalry, 82nd Airborne, and 10th Mountain Divisions have

subsequently advanced mTBI/concussion care based on the *Educate, Train, Treat, and Track* strategy (see Figure C-1).



Legend

CENTCOM	Central Command	JTAPIC	Joint Trauma Analysis and Prevention of Injury in Combat
CNRM	Center for Neuroscience and Regenerative Medicine	MEDCOM	Medical Command
CPGs	clinical practice guidelines	MRMC	Medical Research and Materiel Command (United States Army)
DAEXORD	Department of the Army Execute Order	NFL	National Football League
DARPA	Defense Advanced Research Projects Agency	NICoE	National Intrepid Center of Excellence
DCoE	Defense Center of Excellence	OPORD	operations order
DOD	Department of Defense	ORISE	Oak Ridge Institute for Science and Education
DODI	Department of Defense Instruction	PEO	Program Executive Office
DHP	Defense Health Program	REF	Rapid Equipping Force
DTM	directive-type memorandum	TBI	traumatic brain injury
DVBIC	Defense and Veterans Brain Injury Center	VA	Department of Veterans Affairs

Figure C-1. Army mild traumatic brain injury/concussion management strategy

EDUCATE

C-5. Education is the overarching line of effort in the mTBI management strategy to increase awareness and decrease the stigma of seeking care for invisible injuries. In June 2011, the Army published Department of the Army (DA) Execution Order (EXORD) 242-11, Warrior Concussion/Mild Traumatic Brain Injury Campaign, to mandate mTBI education for all Army personnel.

C-6. Extensive educational materials are available from Defense and Veterans Brain Injury Center (DVBIC), Defense Centers of Excellence for Psychological Health and Traumatic Brain Injury (DCoE), and the Office of The Surgeon General's Rehabilitation and Reintegration Division. The Rehabilitation and Reintegration Division and DVBIC have multiple educational documents and graphics cards for the Soldiers and their Families. The DVBIC provides their educational reference materials on their Web site at www.dvbic.org. The Rehabilitation and Reintegration Division's educational reference materials are also

listed on their Web site at www.armymedicine.army.mil. Education and positive expectation for recovery is well supported in the literature for treating mTBI/concussion patients. Other educational efforts and opportunities include—

- Traumatic brain injury conferences hosted by the VA and DOD to share information and increase care for the Soldier.
- Annual DVBIC conference.
- Army Medical Department-sponsored *State of the Science* workshops that have taken place at major medical centers and medical workshops/conferences.

TRAIN

C-7. Specialized training is provided to medics and health care providers both for deployed and garrison settings, as well as to senior leaders for general traumatic brain injury awareness and leadership expectations. Traumatic brain injury training required by the DA EXORD 242-11 is available via Army Training Network Rehabilitation and Reintegration Division. The Rehabilitation and Reintegration Division staff validates traumatic brain injury training for deploying medics in the brigade combat team trauma training course.

TREAT

C-8. The goal of treatment programs is to deliver integrated care and services from the point of injury or wounding to return to duty or transition from active duty and maximizing function and quality of life. Numerous initiatives are under development to treat and manage mTBI/concussed patients including—

- Implementation of deployed medical algorithms and dissemination of clinical practice guidelines.
- Designation of providers and special clinics to support the mTBI mission at some Role 2 and 3 facilities in Operation Enduring Freedom.
- Dissemination of the mTBI rehabilitation toolkit to assist providers with assessment and treatment. Rehabilitation toolkits and other information sources can be located at the Defense Centers of Excellence Web site at www.dcoe.health.mil/ForHealthPros/TBIInformation.aspx.
- Evaluation by a Role 4 facility of all medically evacuated patients for mTBI.
- Employment of interdisciplinary mTBI teams at high troop density installations.
- Provision of state-of-the-art equipment for assessment and treatment.
- Collaboration with the VA and local resources to meet individual Soldier needs.
- Implementation of traumatic brain injury telehealth programs to ensure patients have access to professionals from remote sites. The Mobile Care (mCare) Program provides Soldiers mobile phones for our community-based Warriors in transition unit programs to facilitate communication with their health care team. The deployed providers can send e-mail inquiries to contact a subject matter expert in the continental U.S. support base or other locations to tbi.consult@us.army.mil.

TRACK

C-9. The goal of tracking mandatory events (mTBI exposure events requiring command evaluations and reporting of exposures) is to facilitate identification of Soldiers at potential risk, provide awareness to health care providers and leaders, and improve medical care with knowledge of involvement in potentially concussive events.

C-10. Mild traumatic brain injury clinical practice guidelines and medical algorithms describe the requirements for commanders to document mandatory events in a significant activity report. This information is transferred through command channels to the Combined Information Data Network Exchange (CIDNE®) in the Blast Exposure and Concussion Incident Report module. This information is then transferred to the Joint Trauma Analysis and Prevention of Injury in Combat (JTAPIC) System where the information is declassified and pushed to the DCoE. The Army ensures that the data is available in the

Medical Protection System database during the postdeployment health assessment. The DCoE then provides the Services with the data.

C-11. Benefits of mTBI tracking include—

- Identifies Soldiers at potential risk.
- Provides medical personnel awareness of an individual's history of proximity to blast events.
- Provides visibility to leaders on the unit's exposure to blast events.
- Provides documentation to support line of duty investigations for Reserve Component and National Guard personnel.
- Provides better medical care through knowledge of exposure.

DEPARTMENT OF DEFENSE POLICY GUIDANCE

C-12. The DOD policy guidance and clinical practice guidelines establish policy, assign responsibilities, and provide procedures for mTBI/concussion in the deployed setting. It standardizes terminology, procedures, leadership actions, and medical management to provide maximum protection of the Soldier.

C-13. The policy guidance and clinical practice guidelines are as follows:

- The DOD shall identify, track, and ensure the appropriate protection of Service Members exposed to potential concussive events, including blast events, to the maximum extent possible.
- Leaders shall direct a medical evaluation for any Service Member exposed to possible concussive events.
- Leaders shall identify, treat, and manage concussion in Service Members by following approved clinical guidance.
- Recurrent concussions shall be addressed in a manner appropriate to its emerging clinical significance.

REPORTING REQUIREMENTS

C-14. Mandatory events reported in the Blast Exposure and Concussion Incident Report are reviewed by the command surgeon and are subsequently forwarded in the following order to the combatant commander, the JTAPIC, DCoE, and then to each of the Services, as appropriate. The Army ensures that this information is available to medical providers by displaying it on all of the DD Form 2795 (Pre-deployment Health Assessment) and DD Form 2796 (Post-deployment Health Assessment) completed throughout a Soldier's career. The command surgeon conducts additional analyses to assess compliance with the DODI 6490.11 and the DCoE conducts analyses to support policy updates.

COMMAND AND MEDICAL RESPONSIBILITIES

C-15. The DOD policy guidance and clinical practice guidelines provide clear guidance that all leaders within the DOD share responsibility for ensuring that Soldiers exposed to possible concussive events are medically evaluated and provided treatment, if required.

C-16. Line commanders must establish a command climate that is supportive of Soldiers seeking medical treatment for potential mTBI/concussion exposures. They must also make it a priority within their command that Soldiers and leaders are educated on the signs and symptoms of potential mTBI/concussion and on the importance of early identification and treatment of Soldiers who have been exposed to potential mTBI/concussive events. All leaders must be aware of the mandatory reporting events and ensure that all reporting requirements are completed at the earliest possible time following the incident. Leaders and Soldiers alike must be active participants in ensuring that all Soldiers potentially exposed to an mTBI/concussive event are evaluated by medical personnel and provided the mTBI/concussion educational information. The educational documents provide the Soldier with information on mTBI, its symptoms, how the mind heals, and what the Soldier can expect to experience during the healing process. It also discusses the importance of rest and sleep as part of the healing process. This information reinforces the training the Soldier has received prior to the incident and helps to allay the concerns and stress the Soldier might feel dealing with an invisible injury.

C-17. Medical personnel must be proactive in educating individual Soldiers and units on mTBI/concussion prior to deployment and throughout the duration of the deployment. All medical personnel must be cognizant of the signs, symptoms, and red flags for potential mTBI/concussion exposure and be observant of patient behaviors or verbal clues for mTBI/concussion even though the Soldier may not be seeking medical assistance for an mTBI/concussion. Medical personnel must also ensure patient encounters are recorded in the patient's electronic medical record (if available) or through written records. Medical personnel taking a patient's medical history should address any potential mTBI/concussion exposures prior to the potentially concussive event, which might have been the result of an automobile accident, sports injury, or other combat-related exposure. A well documented chronological listing of past and current mTBI/concussion exposures will assist in developing an effective treatment plan based upon risk exposure and severity of the injury.

C-18. A synchronized and thoroughly coordinated effort between the Soldier, his command, and the medical personnel providing treatment is required to mitigate the adverse effects of exposure to concussive events and to enhance the Soldier's prognosis for full recovery. All Soldiers are required to complete a predeployment neurocognitive assessment 12 months prior to deployment. Soldiers use the Automated Neuropsychological Assessment Metric, a computer-based tool, to detect speed and accuracy of attention, memory, and thinking ability. The Automated Neuropsychological Assessment Metric tool establishes a baseline and can be used to identify and monitor changes in function after an mTBI/concussion event. Additional screening for Soldiers that may have experienced an mTBI/concussion event occurs during the postdeployment health assessment. A simple four-question survey is presented to the Soldier and a positive response on all four questions indicates that the Soldier should receive an immediate clinical review for a thorough evaluation for a possible mTBI/concussion.

C-19. Department of Defense Instruction 6490.03 mandates that a postdeployment health reassessment be conducted for all Service Members and DA Civilians deployed outside the continental U.S. for 30 days or more. It is a comprehensive health screening conducted 90 to 180 days postdeployment that examines the Soldier for physical and behavioral health concerns. Conducting the postdeployment health reassessment is critical as research indicates this is when symptoms may appear.

SECTION I — PLANNING AND TASK-ORGANIZATION

OPERATIONAL FORCE PLANNING CONSIDERATIONS

C-20. Army Health System operational planners plan for both maneuvering and surviving in the operational area, as well as the impact that the operational environment will have on patient-care activities. Although these are diverse topics, both are essential elements in providing medical care to our deployed Soldiers. The planner must maintain a thorough knowledge of the threats (general and health) present in the AO. Military planning is guided by mission, enemy, terrain and weather, troops and support available, time available, and civil considerations factors. The AHS planner must synchronize the operational and health care delivery aspects of the mission to facilitate the effective and efficient provision of medical care and mitigate the adverse effects of the operational environment on sound patient care.

PREDEPLOYMENT PLANNING

C-21. During the predeployment planning phase, the AHS planner familiarizes himself with the operational characteristics of the proposed AO. The greater his depth of knowledge about the operational area, the better he will be able to anticipate and plan for issues which may arise, synchronize operational and clinical considerations, and develop a comprehensive but flexible AHS support plan.

C-22. The AHS planner must develop the patient estimate (medical workload) which is derived from the casualty estimate prepared by the assistant chief of staff, personnel. Factors influencing the development of the patient estimate include, but are not limited to historical and current experience on—

- Health threat in the operational area.
- Occurrence and frequency of endemic and epidemic diseases within the operational area, as well as within multinational forces. (The status of immunizations within U.S. and multinational forces will also affect the disease and nonbattle injury rate.)

- Presence of disease vectors and/or breeding grounds for pests.
- Anticipated level of violence, duration of the operation, and the primary weapons systems and tactics most likely to be employed by the enemy.
- Physiological and mental stressors.
- Size of the force.
- Type of terrain on which operations will be conducted.
- Availability, type, and use of personal protective equipment.

TASK-ORGANIZATION

C-23. Military units are made up of organic components. Organic parts of a unit are those listed in its table of organization and equipment. Commanders can alter an organization's organic and assigned unit relationships to better allocate assets to subordinate commanders. They also can establish temporary command and support relationships to facilitate mission command. This process of allocating available assets to subordinate commanders and establishing their command and support relationships is called *task-organizing.*

COMMAND AND SUPPORT RELATIONSHIPS

C-24. Establishing clear command and support relationships is fundamental to organizing for any operation. These relationships establish clear responsibilities and authorities between subordinate and supporting units. Knowing the inherent responsibilities of each command and support relationship allows commanders to effectively organize their forces.

C-25. Commanders designate command and support relationships to weight the decisive operation and support the concept of operations. Task-organization also helps subordinate and supporting commanders understand their roles in the operation and support the commander's intent. Command and support relationships carry with them varying responsibilities to the subordinate unit by the parent and the gaining units. Commanders consider these responsibilities when establishing command and support relationships. Commanders consider two organizational principles when task-organizing forces—

- Maintain cohesive mission teams.
- Do not exceed subordinates' span of control capabilities.

MISSION TEAMS

C-26. When possible, commanders maintain cohesive mission teams. Where this is not feasible and *ad hoc* organizations are formed, commanders allow time for training and establishing functional working relationships and procedures. Within the medical arena, special care requirements may necessitate task-organizing clinical assets into multidisciplinary teams to treat specific medical conditions. As occurred in Operation Enduring Freedom, Operation Iraqi Freedom, and Operation New Dawn, a specific pattern of injuries emerged associated with high numbers of casualties resulting from the types of weapons and tactics used by the enemy. To mitigate the effects of exposure to concussive events, it was recognized that early identification and treatment initiated as close to the time of injury of the potential casualties made a significant difference in the prognosis and recovery of these casualties. Through innovative task-organization, medical providers with the required skill sets from within the various medical units deployed were organized into multidisciplinary teams and, with the assistance of the maneuver commanders, these medical teams were located in maneuver force areas normally restricted from Role 3 augmentation support.

SPAN OF CONTROL

C-27. Commanders are careful not to exceed the span of control capabilities of subordinates. Span of control refers to the number of subordinate units under a single commander. Commanders should not be given more units than they can provide effective mission command. This number is situation-dependent. Although span of control varies with the situation, commanders can effectively command two to five subordinate units. Allocating subordinates more units gives them greater flexibility and increases options and combinations.

MILD TRAUMATIC BRAIN INJURY/CONCUSSIVE CARE

C-28. Whether the force to be task-organized is comprised of many organizations or is a single command/unit, the principles of task-organization remain the same. It is a tool the commander uses to build flexibility into his organizational design in order to fully utilize all of his resources to effectively and efficiently accomplish his mission. The commander must consider the tactical situation, patient estimates for the specific types of injuries to be treated, the anticipated duration of the operation, and the type of operation.

Offensive and Defensive Operations

C-29. Both the operational medical planner and the clinical staff must ensure continuous coordination is maintained, as the tactical situation may make some treatment options less feasible than others. Both planners and clinicians must thoroughly understand the AHS principles that apply to medical operations (conformity, proximity, flexibility, mobility, continuity, and control). In offensive tasks (to include movement to contact, attack, exploitation, and pursuit) and defensive tasks (to include mobile, area, and retrograde) that are characterized by movement and maneuver; a fluid operation that rapidly covers great distances and large troop movement; it may not be feasible to *hold* potential mTBI casualties close to their assigned units. The principle of *conformity* refers to the need for the medical plan to conform to the tactical commander's intent, concept of operations, and operations plan. During these types of operations, the supporting medical unit must have the same *mobility*, survivability, and sustainability as the forces it is supporting. The AHS principles of *proximity* and *flexibility* refer to medical units being arrayed in the AO so that they are near the units they are supporting but not so close as to interfere with the tactical commander's conduct of the operation; and that the medical plan is sufficiently *flexible* to be able to respond to changes in the tactical situation and still maintain continuous support. The Role 1 MTF established by the medical platoon of a maneuver battalion requires 100 percent mobility and must be capable of rapidly disestablishing operations at one site, moving to a new site, and rapidly reestablishing the facility. The Role 1 MTF does not have an organic holding capability. During offensive and defensive tasks, as discussed above, the Role 1 MTF cannot be augmented with additional medical personnel and equipment (cots), as augmentation would adversely impact the mobility of the unit and the ability of the tactical commander to exploit opportunities as they present during the operation. The Role 2 MTF established by the medical company (brigade support) and/or medical company (area support) is designed, staffed, and equipped to hold patients for up to 72 hours. This holding capacity is limited in the nursing care which can be provided. Holding cots are not staffed and equipped as are hospital beds in the Role 3 MTFs. Patients being held at Role 2 must be cognizant of their surroundings; capable of taking protective measures in the event a threat exists (such as from artillery fire, satchel charges, shoulder-fired missiles and so on); able to perform personal hygiene activities; and have the ability to obtain their own meals at the field feeding site. Medical companies also require 100 percent mobility; although they may not move as frequently as a Role 1 MTF, they must be capable of quickly disassembling the MTF and moving it to another location at a moment's notice. Since the only means for increasing the mobility of medical units is to evacuate the patients the unit is holding, additional augmentation of the holding capability or unit staffing levels may not be feasible if patients are anticipated to be held more than 72 hours. The remaining two AHS principles that must be considered are *continuity* and *control*. *Continuity* of care extends from the point of injury through the successive roles of care within the operational area to evacuation out of the joint operational area. It is facilitated by the provision of en route medical care during medical evacuation from one role of care to a higher role of care. It does not mean that the full breadth of services and facilities are or should be available at every role of care. *Control* addresses the requirement of ensuring that the scarce medical resources are conserved, that maximum utility of these resources occurs, and that the ten medical functions are synchronized to leverage the capabilities throughout the deployed force to accomplish the health care delivery mission throughout the AO. Control also can refer to the unity of effort required across various Army, joint, and multinational levels of command to ensure the same consistent and standard treatment protocols for the care of all potential mTBI/concussion patients regardless of which facility they receive care.

Stability Tasks

C-30. As major combat operations transition to stability tasks, the tactical environment and the requirement to conduct large, rapid troop movements will begin to stabilize, which increases the options for arraying the medical force throughout the AO. Maneuver units are more likely to begin conducting operations from forward operating bases, rudimentary buildings may be constructed, the level and frequency of violence will diminish, and the tactics used will consist of activities such as patrolling, conducting strikes and raids, providing population control and law enforcement activities, and conducting foreign humanitarian assistance and reconstruction efforts. The change in the tactical situation allows the medical commander to consider options for task-organizing and arraying his medical resources in a manner that is not feasible during offensive and defensive tasks. A discussion of one technique used in a stability task setting is provided in Section III below.

Defense Support of Civil Authorities Tasks

C-31. Defense support of civil authorities is conducted within the U.S. and will not be addressed in this publication. Although the principles, treatment protocols, and clinical practice guidelines are the same, the level of sophistication and the availability of medical resources in both the military and civilian communities limit the need to discuss these operations in this publication. Within the U.S., significant numbers of mTBI/concussion casualties may result from natural or man-made disasters, explosions, or terrorist incidents.

SECTION II — PLANNING CHECKLIST

C-32. The information in this checklist is written to provoke thought and is not intended or designed to encompass all situations which may arise. Among other factors, the type of operation and anticipated duration, type of terrain upon which it will be conducted, and patient estimates for potential mTBI/concussion injuries dictate how the medical force is arrayed within the AO. In joint and multinational operations, although the considerations are generally similar, differences in force structure, capabilities, treatment protocols, and medical equipment dictate that the medical planner and clinician understand variances between the other Services and the multinational force. It is essential that chain of command and unity of effort issues be clearly articulated and that coordination between the various participants is ongoing.

PLANNING CONSIDERATIONS

GENERAL PLANNING CONSIDERATIONS

C-33. General planning considerations affect the initial factors influencing how the operation will be planned for and implemented. It may include both medical and nonmedical considerations. The following list of questions is provided to assist in the planning process:

- What mission command structure is established for the operation? *(Is a joint or multinational task force established? Will specific U.S. Army medical assets be assigned and/or attached to another Service and/or multinational force? Is the command surgeon appointed from the Army assets or is the command surgeon from another Service or country?)*
- What is the nature and anticipated duration of the operation? *The information will impact how the medical force is arrayed to provide AHS support to the supported maneuver and sustainment forces.)*
- What is the anticipated level of violence to be encountered? *(What enemy weapons systems and/or improvised explosive devices will be encountered? What are the types and frequency of injury that can be expected? What is the estimated patient workload for mTBI/concussion injuries? What is the likelihood of mass casualty scenarios?)*
- What are the terrain considerations where the operation is to be carried out? *(The type of terrain can influence the frequency and severity of potential mTBI exposures. Is the operation going to be conducted in an urban terrain? In urban terrain, the severity of blast injuries can be increased when they are sustained in closely confined spaces. Soldiers rappelling into the*

operation and Soldiers navigating in multistoried buildings may be exposed to falls from significant heights. Soldiers may be isolated and/or trapped below, on, or above ground level by rubble and debris. Delays in finding and evacuating Soldiers may increase the severity of the injury and adversely impact their prognosis. Is the operation going to be conducted in mountainous terrain? As in urban terrain, operations in mountainous terrain may have increased fracture, crush, and potential mTBI/concussion injury rates from falls or falling rock. Further, Soldiers can experience altitude illnesses such as high altitude cerebral edema which may coexist with a potential mTBI/concussion from a fall. Each type of terrain should be carefully analyzed to determine the increased risk it presents to potential mTBI/concussion patients.)

- What are the capabilities of the other Services and/or multinational forces within the operational area for evaluating and treating potential mTBI/concussion patients? *(Do any of these formations have operational computed tomography scan equipment/capability? What treatment protocols and testing regimens are used by the other Services and/or multinational forces? Are there personnel with specialty skills such as neurology, sports medicine, behavioral health, chaplains, acupuncture, other alternative medicine expertise, physical therapy, or occupational therapy in the other Services or multinational facilities? Where are they located?)*
- What is the status of electronic medical records within the AO? *(Can the electronic medical record be accessed at all roles of care? If it cannot, what units/facilities do not have the capability? What procedures will be implemented to transfer information from written medical records into the electronic medical record? At what role can this be accomplished? Are standardized intake sheets developed for use by units/facilities without an electronic medical record capability? Is there a standard intake template in use within the operational area or is each facility using its own?)*

Note. For U.S. Army units, the first patient administration specialist is located at the Role 2 MTF established and operated by the medical company (brigade support) or medical company (area support).

FACILITIES PLANNING CONSIDERATIONS

C-34. The actual facilities in which potential mTBI/concussive care patients may be managed and/or treated may vary to a great degree depending upon the tactical situation, the actual location, and the anticipated duration of the operation. The following list of questions is provided to assist in the planning process:

- What type of facilities are mTBI/concussive care patients going to be managed in? *(Depending on the tactical situation, if potential mTBI/concussive care patients can be held in forward areas close to their units of assignment what type of facility will they be housed in? Tents? Buildings of opportunity [which require inspection by supporting engineer units prior to habitation to ensure they are structurally sound and safe for use and by preventive medicine personnel to determine what health hazards they might pose]? Engineer-constructed temporary/rudimentary buildings? Permanent/semipermanent buildings or International Organization for Standardization shelters?)*
- What type of lighting is in the building/shelter? *(Since many potential mTBI patients may be photophobic, the internal lighting of the building/shelter must be considered. Does the facility have windows? Can the windows be shaded to decrease the amount of bright sunlight entering the facility? What types of lighting fixtures are used in the building? Are the overhead lights fluorescent? Can alternate lighting be used [such as Christmas lights or shaded lamps]? Can lights be mechanically dimmed [variable/dimmer switch]?)*
- Where is the facility physically located? *(Is the facility collocated with other medical units? Is the facility located in a sustainment area but not collocated with a medical unit? Is the facility located near a noise hazardous area [potential mTBI/concussion patients may be phonophobic and experiencing sleep issues, so the facility should not be placed near generators, landing zones, motor pools, or other potentially noisy or congested locations]?)*

- Does the building have an environmental control system? *(Can the temperature within the facility be maintained at a comfortable temperature? If not, what can be done to increase ventilation within the facility?)*
- Does the facility have sufficient electrical capability to support computers, medical equipment, or other required equipment? *(What is the status of the electric supply capability for the facility? Is electrical support available 24 hours a day or are there scheduled or unscheduled brownouts/blackouts occurring?)*

MEDICAL EVACUATION CONSIDERATIONS

C-35. Medical evacuation ensures that the continuity of care is maintained from the point of injury or wounding throughout the successive roles of care within the operational area. Medical evacuation is an integrated system of both rotary-wing air ambulances and ground ambulances. Medical evacuation operations can be affected by numerous factors, such as terrain and weather, air superiority, and navigable road networks. Clinical personnel must advise the medical planner of any issues which might adversely impact the prognosis of patients with potential mTBI/concussion patients to be evacuated (such as altitude restriction or time limitations). The following list of questions is provided to assist in the planning process:

- What is the theater evacuation policy? *(The theater evacuation policy determines how long a patient can be held within the operational area for treatment and recovery of wounds, injuries, or illnesses. The theater evacuation policy is normally no more than seven days due to the essential care in theater concept. Is an exception to policy required to retain potential mTBI/concussion patients for a longer period of time than the theater evacuation policy permits?)*
- Are there any clinical precautions/considerations when evacuating a potential mTBI/concussion patient? *(What is the primary means of evacuation in use in the operational area? Are there any clinical considerations [such as altitude restrictions or length of travel time]? Are there any signs or symptoms that medical personnel providing en route care for these patients should be aware of? Are any medical records [DD Form 1380, DA Form 7656, or other] being transported with the patient?)*

MEDICAL LOGISTICS CONSIDERATIONS

C-36. Medical logistics must be well planned and synchronized within the operational area. If augmentation support is provided to Role 1 and Role 2 MTFs, any special requirements for medications, medical equipment, medical equipment maintenance and repair must be planned for and coordinated in advance of deploying the augmentation assets forward. The following list of questions is provided to assist in the planning process:

- What medications are required for concussive care patients? *(Are the medications required for the treatment of mTBI/concussion patients in the theater formulary? If they are not, at what level will they be special ordered? Do the Role 1 and Role 2 medical equipment sets contain all of the medications required for the treatment of this category of patients? If not, how will the medications be requisitioned? If line item requisition has not been implemented, will prepackaged medical logistics bundles be assembled to resupply required medications and automatically be pushed forward? How will medications be accounted for? Where will medications be stored? Who will issue the medications?)*
- Will additional medical equipment not normally present at Roles 1 and 2 be required? *(What types of equipment will be required? Who will perform maintenance on this equipment? How will this equipment be replaced? Does this equipment have expendable supplies associated with it? How will these supplies be replenished?)*

PATIENT ADMINISTRATION CONSIDERATIONS

C-37. In addition to medical records (discussed in paragraph C-33 above), other patient administration requirements may include patient accountability, security of weapons and other military equipment, and patients' personal possessions. The following list of questions is provided to assist in the planning process:

- If patients are going to be held at Roles 1 and 2 how will they be accounted for? *(Role 1 and Role 2 MTFs do not have an "admission" function, as do Role 3 hospitals. How will patients being held at these roles be accounted for if they are to be held at Role 1 or for more than 72 hours at Role 2? How will the status of these patients be communicated to their parent units? Is there a requirement to report patient status to higher headquarters and/or a supporting hospital? How will this be accomplished [time and frequency of report]? Are patients able to move freely through the area or must they be escorted to and from meals, appointments, and/or other activities?)*
- Will patients held at Role 1 and Role 2 be armed? *(Will potential mTBI/concussion patients retain their weapons and other military equipment while they are being treated and held? If not, how and by whom will the weapons and equipment be stored and accounted for? If they retain their weapons and equipment, will they be housed in a facility that is marked with the Geneva Emblem? [This may impact the status of the medical unit under the provisions of the Geneva Conventions and deprive the medical unit of the protections afforded under the conventions. Significant numbers of armed combatants housed in facilities identified as protected under the conventions may in fact be viewed by the enemy to be a tactical assembly area and the use of the Geneva Emblem would be a prohibited activity. Refer to Army medical doctrine for additional information on the Geneva Convention. Will the Soldiers retain their protective gear [vest and helmets or other military equipment]? If the equipment is to be turned in, is it returned to the parent unit or does the MTF store and account for it? Where will it be stored and who is responsible for ensuring that it is properly secured from potential theft or loss?)*

HOSPITALIZATION CONSIDERATIONS

C-38. The deployed hospital will have the greatest number and variety of trained specialists to be used in the provision of care to mTBI/concussion patients. Additionally, medical equipment for advanced diagnostic testing will also be available. The medical commander must carefully analyze his medical specialty mix, staffing levels and ancillary support personnel to determine the feasibility of developing task-organized mission teams to deploy from and operate away from the Role 3 without adversely impacting the provision of care within the Role 3 facility. The following list of questions is provided to assist in the planning process:

- Does the hospital have a minimal care ward? *(Has the hospital been augmented with a medical detachment [minimal care]? What is the bed census for the facility? What is the staffing level of the hospital? Can occupational therapists and physical therapists be used in the treatment of mTBI/concussion patients?)*
- Does the facility have a computerized tomography scan? *(Has the hospital been augmented with a hospital augmentation team [head and neck] [which has an organic computerized tomography scan]? Has a neurosurgeon/neurologist been deployed?)*
- Has the facility been augmented with a hospital augmentation team (special care)? *(Do any of the family practice physicians have sports medicine training and/or alternative treatment [such as acupuncture] training?)*
- What will the scope of practice for each specialty care provider be in regards to treating mTBI/concussion patients? *(If providers have additional skills not represented by their area of concentration how will training be identified? How will the special skills be verified or credentialed? What will be the scope of practice for enlisted personnel [such as combat medics/corpsmen, physical and occupational therapy technicians, and combat and operational stress control personnel]? What procedures, diagnostic testing, and treatments can enlisted personnel perform if a credentialed provider is not present?)*

COMBAT AND OPERATIONAL STRESS CONTROL CONSIDERATIONS

C-39. Combat and operational stress control resources should be considered to assist in providing care to mTBI/concussion patients. Although the COSC mission and the treatment of mTBI/concussion patients is different, the skills and experiences of the caregivers have some similarity and may be able to enhance the

care provided to the mTBI/concussion patients. The following list of questions is provided to assist in the planning process:

- Are mTBI/concussive care treatment elements collocated with COSC elements/units*? (Are the facilities collocated with or in close proximity to of each other? Are there shared services, treatment areas, and personnel that can be used in the treatment of mTBI/concussion patients? Are COSC personnel available to provide assistance to the mTBI/concussion care treatment area?)*
- As many mTBI/concussion patients also are dealing with stress induced reactions, can these patients receive COSC consultation and education at the same time as they are receiving treatment for mTBI/concussion? *(Can office hours be established that will accommodate both mTBI/concussion treatment and COSC consultation and education?)*
- Are mTBI/concussion patients housed with personnel experiencing combat and operational stress reactions? *(Are there separate facilities for these two categories of patients? Are facilities housing combat and operational stress reaction patients marked as a medical facility and displaying the Geneva Emblem? Will combat and operational stress reaction patients be armed? Will mTBI/concussion patients retain their arms and protective equipment?)*

MISCELLANEOUS CONSIDERATIONS

C-40. Clinicians and AHS planners will need to be innovative in their approach to treating mTBI/concussion care patients. Although the statistical analysis of numbers and types of mTBI/concussion patients being treated in the current operations is still preliminary, there is an indication that when treatment is initiated as soon as possible after the potential exposure, the prognosis is more favorable. The following list of questions is provided to assist in the planning process:

- Are there any veterinary service units collocated on the same forward operating base as the facility providing mTBI/concussion care? *(Does the veterinary unit have any military working dogs undergoing rehabilitative treatment? Is the dog handler also present? Can any of the military working dogs be used as treatment therapy dogs around mTBI/concussion patients?)*
- Does the forward operating base have a gymnasium or other recreational facilities? *(What restrictions do mTBI/concussion patients have on exercising? What is the Soldier's level of compliance with instructions not to do strenuous exercises? If a Soldier continues to exercise even though instructed not to, how is it affecting his recovery?)*

SECTION III — OPERATIONAL TECHNIQUE

C-41. In current operations, a task-organized system of care has evolved for the treatment of mTBI/concussion patients, close to their unit of assignment. These operations are characterized by a preponderance of stability tasks conducted over an extended duration, with fairly stable troop/unit assignments, and limited troop movements and/or maneuvers. The system of care that evolved is the result of specific operational and clinical considerations which may not apply to other types of operations conducted in different environments. Although the principles upon which this system was established may be enduring, the actual facility layout and how it is arrayed in the operational area will vary from scenario to scenario.

COMMON CORE CAPABILITIES

C-42. In order to provide the most responsive care possible to Soldiers exposed to potential mTBI/concussive events, a program was undertaken to educate the line leaders on the importance of rapidly identifying Soldiers with potential exposures and fostering a command climate that encourages and enables the Soldiers to seek medical treatment and comply with the recommended treatment regimen. The coordination and synchronization of activities with the line commanders enhanced the ability of the AHS to undertake some innovative measures to establish treatment sites and holding facilities in areas they normally would not be able to use (such as collocated with a Role 1 MTF established by the maneuver battalion medical platoon). To this end, a system of care facilities was established throughout the operational area in close proximity to troop concentrations at forward operating bases. The range of

services available at each location differed to some extent based upon the level of staffing, availability of medical specialties, and medical equipment on hand. Table C-1 provides the common core capabilities of the various treatment elements.

Table C-2. Common core capabilities

Common Core Capabilities	
Point of Injury and Role 2	• Medics and providers screen for red flags and other indicators necessitating medical evacuation. • Initial screening using the military acute concussion evaluation. • Medics administer the Combat Medic/Corpsman Concussion (Mild Traumatic Brain Injury) Triage (Prehospital/No Medical Officer in the Immediate Area) (Algorithm 1). • Physicians and physician assistants administer the Initial Provider Management of Concussion in Deployed Setting (Algorithm 2).
Concussion Care Centers	• Medical team provides 24-hour medical supervision in the concussion care center. • Occupational therapist, occupational therapy technician, and part-time physician currently staff 7 out of 8 concussion care centers. A nurse, technician, and part-time physician currently staff one facility under multinational force control. Primary care physicians oversee implementation of DOD policy guidance and clinical practice guidelines. • Therapists administer combat-related assessments to inform the physician's return-to-duty decision. Patients perform military-specific tasks such as climbing into a mock mine-resistant ambush protected vehicle, marksmanship, and other functional activities that simulate combat demands. • Providers offer basic rehabilitative services, exertional testing, and administer neuro-cognitive testing. • Leverage combat and operational stress control providers and chaplain support for mind-body-spirit interventions during concussion recovery.

Table C-2. Common core capabilities (continued)

Common Core Capabilities (continued)	
Concussion Care Restoration Centers	• Provides comprehensive concussion and musculoskeletal care for designated area. • Combines an intermediate level of concussion care utilizing Algorithm 2 with specific staffing model well-suited to address musculoskeletal injuries. • Integrates behavioral health with complementary and alternative medicine services such as acupuncture (based on provider availability). • Staffing: sports medicine-trained family medicine team leader, two family medicine physicians, psychologist, researcher coordinator, nurse, occupational therapist, physical therapist, and 5 Navy Corpsmen. • Does not fully implement Comprehensive Concussion Algorithm Referral from Role 1 or Role 2 or Polytrauma (Algorithm 3) or Recurrent Concussion (Three Documented Occurrences in a 12-Month Span [Algorithm 4]), but refers Soldiers who require a higher role of care to a Role 3 facility.
Concussion Specialty Care Centers	• Conducts medical and rehabilitative assessments outlined in the Recurrent Concussion (Three Documented Occurrences in a 12-Month Span [Algorithm 4]) required for those who have sustained 3 documented concussions within 12 months. • Conducts comprehensive evaluations for Soldiers who are refractory to concussion treatment at lower roles of care. Offers neurocognitive assessments and interpretations. • Interdisciplinary treatment teams (led by a neurologist) provide the most comprehensive clinical assessment available in the operational area and offer a wide range of treatment options not available at lower roles of care. • Has magnetic resonance imaging capability.

NEUROLOGY CONSULTANT

C-43. The theater neurology consultant, assigned to the supporting medical brigade (support), serves as the principal staff officer and subject matter expert in the field of neurology and concussion management and provides recommendations for mTBI/concussion care policy and procedures to be implemented within the operational area.

C-44. The duties and responsibilities of the neurology consultant include, but are not limited to—

- Conduct site visits to facilities within the operational area to evaluate the implementation of clinical algorithms as mandated by DODI 6490.11
- Identify and promote best practices across all roles of care.
- Facilitate concussion training and education for deployed providers and disseminate policy updates.
- Share responsibility for supporting concussion care programs and clinical practice guidelines development.

- Participate in concussion specialty care center clinical care and serve as the consulting neurologist for remote sites.
- Actively coordinate within the command and agencies outside the command to include Office of the Assistant Secretary of Defense (Health Affairs), DVBIC, National Intrepid Center of Excellence, Office of The Surgeon General, other Services representatives on the Quad-Service TBI working group, and other interested parties, as appropriate.
- Consult and educate line leaders as needed.
- Track enrollment, length of stay and return to duty metrics for Soldiers treated for concussion at all concussion care centers or coordinate concussion activities within his AO and collect data, analyze trends, and prepare reports.

CONCUSSION CARE CENTERS

C-45. The primary mission for the concussion care centers is to deliver concussion evaluation and care as outlined in clinical practice guidelines and medical Algorithms 1 and 2. The concussion care center provides a holding cot capability for a limited number of self-sufficient patients recovering from potential mTBI/concussion exposure. This holding capability is provided to enable the Soldier to obtain proper rest, sleep, medical evaluation, and basic rehabilitative care in a quiet and relaxing atmosphere. Soldiers who are refractory to concussion treatment are evacuated to a Role 3 MTF.

Note. As discussed previously, when establishing these facilities care must be taken to establish them away from noise hazard area such as assembly areas, motor pools, or other congested areas.

CONCUSSION RESTORATION CARE CENTER

C-46. This facility established at a Role 2 MTF supports the designated mission for the U.S. Marine Corps by providing concussion and musculoskeletal care for a designated area within the operational area. It combines an intermediate level of concussive care with a specific staffing model well-suited to address musculoskeletal injuries. The concussion restoration care center also integrates behavioral health care with complementary and alternative medicine services such as acupuncture and osteopathic services, depending upon the incoming provider's skill set.

CONCUSSION SPECIALTY CARE CENTERS

C-47. The primary mission of the concussion specialty care center is to conduct medical and rehabilitative assessments outlined in the Recurrent Concussion (Three Documented Occurrences in a 12-Month Span [Algorithm 4]) required for those who have sustained three documented concussions within 12 months. The concussion specialty care centers also conduct comprehensive assessments for Soldiers who are refractory to concussion treatment at lower roles of care.

C-48. Interdisciplinary treatment teams provide a more comprehensive clinical assessment and offer a wider range of treatment options not available at lower roles of care. Soldiers reside in dedicated postconcussion quarters, staffed by a medic, while receiving care. If possible, standardization of facilities is recommended.

MILD TRAUMATIC BRAIN INJURY TREATMENT ALGORITHMS

C-49. The DVBIC has developed treatment algorithms for use by deployed forces in evaluating potential mTBI/concussive incidents. As new scientific data is gathered and analyzed and treatment protocols refined, the information in the algorithms is subject to change. Therefore, this appendix will only address these algorithms in general and will not provide the actual algorithms being used. When the information on the algorithm is updated, it may change the other information contained on the algorithm card upon which this appendix is based. Therefore, the information on the most current algorithm card should be followed if it varies from what is contained in this appendix. For additional information concerning the algorithms, e-mail your inquiry to tbi.consultant@us.army.mil. All Soldiers who have experienced a concussive event

and have been diagnosed with an mTBI/concussion should be given the educational information sheet developed by the DVBIC. This information sheet can be obtained at http://www.DVBIC.org.

COMBAT MEDIC/CORPSMAN CONCUSSION (MILD TRAUMATIC BRAIN INJURY) TRIAGE (PREHOSPITAL/NO MEDICAL OFFICER IN THE IMMEDIATE AREA)

C-50. This algorithm was developed for use by the combat medic or medical corpsman when he is operating in a deployed setting away from his supporting Role 1 or Role 2 MTF. The goal is to quickly assess the casualty for red flags and if a Soldier is found to require further consultation, the combat medic/corpsman is given guidance to further discuss the injury with a provider. It includes the mandatory events which require the administration of military acute concussion evaluation (MACE).

C-51. This evaluation applies to all individuals who have had or who are suspected to have had experienced a concussive event. The individual may present as being dazed, is confused, saw stars, lost consciousness (even momentarily), or has memory loss as a result of an explosion/blast, fall, motor vehicle crash, or other event involving abrupt head movement, a direct blow to the head, or other head injury.

C-52. In addition to the algorithm, the card contains information on the red flags to watch for, symptoms (Table C-1), and appropriate exertional testing which can be conducted in this setting. It also provides information on when the patient should be referred to a credentialed provider.

INITIAL PROVIDER MANAGEMENT OF CONCUSSION IN DEPLOYED SETTING

C-53. The intent of this algorithm is to provide a definitive assessment and care given by initial providers to include a more detailed assessment, management recommendations, and consideration for evacuation to a higher role of care. Providers include physicians, physician assistants, and other providers as designated by the command surgeon. Patients seen in this setting may or may not have been evaluated by a combat medic/corpsman prior to seeking treatment at the Role 1 or Role 2 MTF.

C-54. The algorithm card for the initial provider contains information on the mandatory events reporting, red flags, a more detailed symptoms listing, and the exertional testing protocol appropriate for forward deployed MTFs.

PRIMARY CARE MANAGEMENT

C-55. The initial provider algorithm card provides the physician/physician assistant with recommended primary care principles and actions. This information includes rest requirements, any sleep issues, duty restrictions, possible medications, pain management, and medical evacuation to a higher role of care, as determined appropriate by the initial provider for the specific patient being evaluated.

COMPREHENSIVE CONCUSSION ALGORITHM REFERRAL FROM ROLE 1 OR ROLE 2 OR POLYTRUAMA

C-56. Additional resources available at Role 3 hospitals allow further evaluation and more comprehensive management for those patients who present acutely with concussion and/or have persistent symptoms. More comprehensive neurological and psychological examinations can be conducted at these facilities. Additional examinations, as indicated, include ears, nose, and throat; eye; and balance examinations. Further, computed tomography is available to provide an advanced diagnostic capability.

INTERNATIONAL CLASSIFICATION OF DISEASE CODES

C-57. International Classification of Disease codes pertaining to concussive injuries are defined by the Department of Defense International Classification of Disease Coding Guidance for Traumatic Brain Injury. A fact sheet and pocket card explaining the codes and coding process can be obtained from DVBIC.

RECURRENT CONCUSSION (THREE DOCUMENTED OCCURRENCES IN A 12-MONTH SPAN)

C-58. The recurrent concussion (three documented occurrences in a 12-month span) card contains the algorithm and information on the key clinical practice guidelines, mandatory events, MACE documentation, and discussion of return-to-duty considerations.

MILITARY ACUTE CONCUSSION EVALUATION

C-59. When evaluating recurrent concussions, all three parts of the MACE must be documented. Document the MACE using the mnemonic **c**ognitive score, **n**eurological examination, and **s**ymptoms (CNS): **C**—cognitive score (reported with 30 point score); **N**—neurological examination reported as green (normal) or red (abnormal/positive examination findings); and **S**—symptoms reported as A (no current symptoms) or B (one or more current symptoms).

C-60. If during the symptom section of the MACE, alteration of consciousness/loss of consciousness is not reported, then a concussion has not occurred. The MACE is stopped because the cognitive portion is not valid in nonconcussed patients. Document symptoms in the medical record and continue the evaluation to determine other causes of these symptoms. In this situation the MACE score would be reported as not applicable. If alteration/loss of consciousness is reported, continue with cognitive and neurological screening portion of the MACE.

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Source Note

This publication cites this source as a historical example. It is listed by page number.

ix FM 3-0, *Operations*, (Washington, DC: Department of Defense, 27 February 2008)

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Glossary

SECTION I – ACRONYMS AND ABBREVIATIONS

ABCA	American, British, Canadian, Australian, and New Zealand
ADA	American Dietetic Association
AHS	Army Health System
AO	area of operations
ATP	Army techniques publication
ATTP	Army tactics, techniques, and procedures
AR	Army regulation
BICEPS	brevity, immediacy, contact, expectancy, proximity, and simplicity
ºC	degrees Celsius
CBRN	chemical, biological, radiological, and nuclear
CIDNE®	Combined Information Data Network Exchange
CONUS	continental United States
COSC	combat and operational stress control
DA	Depatment of the Army
DA Pam	Department of the Army pamphlet
DCoE	Defense Center of Excellence
DD	Department of Defense
DEPMEDS	Deployable Medical System
DOD	Department of Defense
DODD	Department of Defense directive
DODI	Department of Defense instruction
DVBIC	Defense and Veterans Brain Injury Center
EXORD	execution order
ºF	degrees Fahrenhiet
FM	field manual
G-3	assistant chief of staff, operations
HHD	headquarters and headquarters detachment
ISO	International Organization for Standardization
JTAPIC	Joint Trauma Analysis and Prevention of Injury in Combat
kw	kilowatt
MACE	military acute concussion evaluation
MC4	medical communications for combat casualty care
MDRI	military dietary reference intake
mg	milligram
MRE™	Meal, Ready-to-Eat™
mTBI	mild traumatic brain injury
MTF	medical treatment facility
MTOE	modified table of organization and equipment

NATO	North Atlantic Treaty Organization
PCP	phencyclidine hydrochloride
S-1	personnel staff officer
S-2	intelligence staff officer
S-3	operations staff officer
S-4	logistics staff officer
S-6	signal staff officer
STANAG	standardization agreement
TAMMIS	Theater Army Medical Management Information System
TEMPER	tent, expandable, modular, personnel
TM	technical manual
TMIP-J	Theater Medical Information Program-Joint
TOE	table of organization and equipment
UGR™	Unitized Group Ration™
U.S.	United States
USAMEDDC&S	United States Army Medical Department Center and School
VA	Department of Veterans Affairs

SECTION II – TERMS

adequate care

Health care sufficient to provide the lowest possible mortality and morbidity rates for wounded in action and nonbattle injury casualties in the theater force. Initial resuscitation should be prompt, adequate, and at the point of injury or as far forward as tactically feasible. Those Soldiers who are wounded in action or suffering from nonbattle injury wil1 be treated and evacuated as expeditiously as possible to the role of care required for initial wound therapy. Initial wound surgery will consist of those procedures to stabilize neurological, vascular, and bone and joint wounds and injuries. Initial wound surgery for the less severe injuries may permit return to duty within the stated theater evacuation policy. If not capable of returning to duty within the evacuation policy, patients should be evacuated to a role of care capable of providing definitive care. (ATTP 4-02)

advanced trauma management

Resuscitative and stabilizing medical or surgical treatment provided to patients to save life or limb and to prepare them for further evacuation without jeopardizing their well-being or prolonging the state of their condition. (ATTP 4-02)

***amnesia**

A lack of memory. Amnesia related to trauma, such as concussion, can be either antegrade or retrograde.

- Antegrade amnesia is the inability to form new memories following the traumatic event (typically not permanent).
- Retrograde amnesia is the loss of memory for events that occurred prior to the traumatic event.

Army Health System

A component of the Military Health System that is responsible for operational management of the health service support and force health protection missions for training, predeployment, deployment, and postdeployment operations. The Army Health System includes all mission-support services performed, provided, or arranged by the Army Medical Department to support health service support and force health protection mission requirements for the Army and as directed, for joint, intergovernmental agencies, coalition, and multinational forces. (ATTP 4-02)

combat and operational stress control

A coordinated program for the prevention of and actions taken by military leadership to prevent, identify, and manage adverse combat and operational stress reactions in units.

***combat and operational stress reaction**

The physical, emotional, cognitive, or behavioral reactions, adverse consequences, or psychological injuries of Service Members who have been exposed to stressful or traumatic events in combat or military operations. Combat and operational stress reactions vary in severity as a function of operational conditions, such as intensity, duration, frequency of combat exposure, rules of engagement, leadership, effective communication, unit morale, unit cohesion, and perceived importance of the mission, and so forth. Combat and operational stress reactions do not represent mental health disorders or medically diagnosable conditions and concerns. Posttraumatic stress disorder is not equivalent to or another name for combat and operational stress reaction.

definitive care

(1) That care which returns an ill or injured Soldier to full function, or the best possible function after a debilitating illness or injury. Definitive care can range from self-aid when a Soldier applies a dressing to a grazing bullet wound that heals without further intervention, to one week bed rest in theater for dengue fever, to multiple surgeries and full rehabilitation with a prosthesis at a continental United States medical center or Department of Veterans Affairs hospital after a traumatic amputation. Doctrinally, definitive care is delivered at the lowest possible level. (2) That treatment required to return the Service Member to health from a state of injury or illness. The Service Member's disposition may range from return to duty to medical discharge from the military. It can be provided at any level depending on the extent of the Service Member's injury or illness. It embraces those endeavors which complete the recovery of the patient. It is not hampered by the crisis aspects of resuscitative care. (ATTP 4-02)

definitive treatment

The final level of comprehensive care provided to return the patient to the highest degree of mental and physical health possible. Definitive treatment is not associated with a specific role or location in the continuum of care; it may occur in different roles depending upon the nature of the injury or illness. After the definitive treatment period the individual may undergo rehabilitation before being returned to duty or discharged from the military service. (ATTP 4-02)

***dental care**

There are two categories of dental care—operational care and comprehensive care. (1) *Operational care* is provided in the theater of operations and consists of two types of dental care. (a) *Emergency dental care* is given for the relief of oral pain, elimination of acute infection, control of life-threatening oral conditions (hemorrhage, cellulitis, or respiratory difficulty) and treatment of trauma to teeth, jaws, and associated facial structures. It is the most austere type of care and is available to Soldiers engaged in tactical operations. Common examples of emergency treatments are simple extractions, pulpectomies, administration of antibiotics, pain medicines, and temporary fillings. (b) *Essential dental care* includes dental treatment necessary to intercept potential emergencies. This type of operational care is necessary for the prevention of lost duty time and preservation of the fighting strength. It is also intended to maintain the overall oral fitness of Soldiers at a level consistent with combat readiness. Most dental disease is chronic and recurring. A Soldier's oral health status will deteriorate from the day of deployment if essential dental care is not provided. The scope of services includes minor oral surgery, definitive restorative, tooth removal, periodontal, and prosthodontic procedures. This is the highest type of dental care provided within the theater of operations. (2) *Comprehensive care* is dental treatment to restore an individual to optimal oral health, function, and aesthetics.

disease and nonbattle injury casualty

A person who is not a battle casualty but who is lost to the organization by reason of disease or injury, including persons dying of disease or injury, by reason of being missing where the absence does not appear to be voluntary, or due to enemy action or to being interned. (ATTP 4-02)

emergency medical treatment

The immediate application of medical procedures to the wounded, injured, or sick by specially trained medical personnel. (ATTP 4-02)

enteral feeding

The delivery of nutrients directly into the stomach, duodenum, or jejunum.

essential care

Medical care and treatment within the theater of operations and which is mission, enemy, terrain and weather, troops and support available, time available, and civil considerations-dependent. Includes first responder care, initial resuscitation and stabilization as well as treatment and hospitalization. Forward care may include stabilizing surgery to ensure the patient can tolerate further evacuation as well as en route care during evacuation. The objective is to either return the patient to duty within the theater evacuation policy, or to begin initial treatment required for optimization of outcome. (ATTP 4-02)

***5 R's**

Actions used for combat and operational stress reaction control that include—**R**eassure of normality; **R**est (respite from combat or break from the work); **R**eplenish bodily needs (such as thermal comfort, water, food, hygiene, and sleep); **R**estore confidence with purposeful activities and contact with his unit; **R**eturn to duty and reunite Soldier with his unit.

force health protection

(1) Measures to promote, improve, or conserve the mental and physical well-being of Service Members. These measures enable a healthy and fit force, prevent injury and illness, and protect the force from health hazards (JP 1-02). (2) Force health protection encompasses measures to promote, improve, conserve or restore the mental or physical well-being of Soldiers. These measures enable a healthy and fit force, prevent injury and illness, and protect the force from health hazards. These measures also include the prevention aspects of a number of Army Medical Department functions (preventive medicine, including medical surveillance and occupational and environmental health surveillance; veterinary services, including the food inspection and animal care missions, and the prevention of zoonotic disease transmissible to man; combat and operational stress control; dental services [preventive dentistry]; and laboratory services [area medical laboratory support]) (ATTP 4-02).

health service support

(1) All services performed, provided, or arranged to promote, improve, conserve, or restore the mental or physical well-being of personnel. These services include, but are not limited to the management of health services resources, such as manpower, monies, and facilities; preventive and curative health measures; evacuation of the wounded, injured, or sick; selection of the medically fit and disposition of the medically unfit; blood management; medical supply, equipment, and maintenance thereof; combat and operational stress control and medical, dental, veterinary, laboratory, optometry, nutrition therapy, and medical intelligence services (JP 1-02). (2) Health service support encompasses all support and services performed, provided, and arranged by the Army Medical Department to promote, improve, conserve, or restore the mental and physical well-being of personnel in the Army. Additionally, as directed, provide support in other Services, agencies, and organizations. This includes casualty care (encompassing a number of Army Medical Department functions—organic and area medical support, hospitalization, the treatment aspects of dental care and behavioral/neuropsychiatric treatment, clinical laboratory services, and treatment of chemical, biological, radiological, and nuclear patients), medical evacuation, and medical logistics (ATTP 4-02).

health threat

An individual Soldier's health, to include hereditary conditions that manifest themselves in adulthood, individual exposure to an industrial chemical or toxin where others are not exposed, or other injuries and traumas that affect an individual's health rather than the health of the unit. (ATTP 4-02)

***medical evaluation or assessment**

A meeting between a Soldier and a person with medical training (combat medic, physician assistant, physician, or other health care provider) to ensure the health and well-being of the Soldier. Components of this evaluation include reviewing a history (events surrounding injury, review of symptoms, and the like), a physical examination, and a review of the treatment plan with the Soldier.

***military acute concussion evaluation**

A three-part medical screening tool developed by the Defense and Veterans Brain Injury Center to assist clinical providers with the evaluation of concussion. This tool is available to medical personnel by e-mailing: info@DVBIC.org. Also referred to as MACE.

***mild traumatic brain injury/concussion**

The diagnosis of concussion is made when two conditions are met. In the absence of documentation, both conditions are based on self-report information. An injury event must have occurred.

The individual must have experienced one of the following:

- Alteration of consciousness lasting less than 24 hours.
- Loss of consciousness, if any, lasting for less than 30 minutes.
- Memory loss after the event, called posttraumatic amnesia, that lasts for less than 24 hours.
- Normal structural neuroimaging.

***neuroimaging**

A radiographic imaging study to evaluate the brain, to include computerized tomography scan or a magnetic resonance imaging.

***Posttraumatic amnesia**

Period of amnesia following a traumatic brain injury.

***reconditioning program**

An intensive 4- to 7-day program (may be extended by exception to theater evacuation policy) of replenishment, physical activity, therapy, and military retraining for combat and operational stress control casualties and neuropsychiatric cases (including alcohol and drug abuse) who require successful completion for return to duty or is evacuated for further neuropsychiatric evaluation.

***Soldier restoration**

A 24- to 72-hour (1- to 3-day) program in which Soldiers with combat and operational stress reactions receive treatment.

theater evacuation policy

A command decision indicating the length in days of the maximum period of noneffectiveness that patients may be held within the command for treatment. Patients who, in the opinion of a responsible medical officer, cannot be returned to duty status within the period prescribed are evacuated by the first available means, provided the travel involved will not aggravate their disabilities. (FM 4-02)

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