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THE MEDICAL COMPANY
TACTICS, TECHNIQUES, AND PROCEDURES

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PREFACE

This field manual (FM) provides the doctrine and the tactics, techniques, and procedures required for the operation of the medical company. It is intended for use by the medical commander and his staff.

The proponent for this manual is the United States (US) Army Medical Department Center and School. Submit comments and recommendations for the improvement of this publication on Department of the Army (DA) Form 2028 directly to the **Commander, US Army Medical Department Center and School, ATTN. HSMC-FCD-L, Fort Sam Houston, Texas 78234-6175.**

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

The staffing and organizational structure presented in this publication reflects those established in living tables of organization and equipment (LTOEs). However, such staffing is subject to change to comply with manpower requirements criteria outlined in Army Regulation (AR) 570-2 and can be subsequently changed by your modified table of organization and equipment (MTOE).

This publication implements and/or is in consonance with the following North Atlantic Treaty Organization (NATO) International Standardization Agreements (STANAGs), American, British, Canadian, and Australian (ABCA) Quadripartite Standardization Agreements (QSTAGs), and Air Standards (Air STDs)

Title	STANAG	QSTAG	Air STDs
Marking of Military Vehicles	2027	512	
Medical Employment of Air Transport in the Forward Area	2087	529	
Documentation Relative to Medical Evacuation, Treatment, and Cause of Death of Patients	2132	470	
Military Routes and Route/Road Networks	2174		
orders for Camouflage of the Red Cross and Red Crescent on Land in Tactical Operations	2931		
Aeromedical Evacuation	3204		
Aeromedical Evacuation by Helicopters			44/36A
Selection, Priorities, and Classes of Conditions for Aeromedical Evacuation			61/71

When amendment, revision, or cancellation of this publication is proposed which will affect or violate the international agreements concerned, the preparing agency will take appropriate reconciliatory action through international standardization channels.

CHAPTER 1

COMBAT HEALTH SUPPORT SYSTEM

Section I. OVERVIEW OF COMBAT HEALTH SUPPORT

1-1. General

This chapter provides an overview of the combat health support (CHS) system designed to provide health care to our soldiers on the battlefield. The system was designed to provide a continuum of care, from the point of injury and/or forward line of own troops (FLOT) through successive echelons of care, to definitive and rehabilitative hospitals in the continental United States (CONUS) sustaining base.

1-2. Echelons of Medical Care

Combat health support is arranged in echelons of care (Figure 1-1). Each echelon reflects an increase in medical capabilities while retaining the capabilities found in the preceding echelon.

a. The first medical care a soldier receives is provided at Echelon I. This echelon of care includes the following:

- Immediate lifesaving measures.
- Disease and nonbattle injury (DNBI) prevention.
- Combat stress control (CSC) preventive measures.
- Patient collection.
- Medical evacuation from supported units to supporting medical treatment elements.
- Treatment provided by designated combat medics or treatment squads (battalion aid stations [BASS]). Major emphasis is placed on those measures necessary for the patient to return to duty (RTD), or to stabilize him and allow for his evacuation to the next echelon of care. These measures, include maintaining the airway, stopping bleeding, preventing shock, protecting wounds, immobilizing fractures, and other emergency measures, as indicated.

(1) The combat medic is assisted in his duties by nonmedical personnel performing first-aid procedures. First aid is administered by an individual (self-aid or buddy aid) and by the combat lifesaver.

(a) *Self-aid and buddy aid.* Each individual soldier is trained to be proficient in a variety of specific first-aid procedures. These procedures include aid for chemical casualties with particular emphasis on lifesaving tasks. This training enables the soldier or a buddy to apply immediate first aid to alleviate a life-threatening situation.

(b) Combat lifesaver. The combat lifesaver is a member of a nonmedical unit selected by the unit commander for additional training beyond basic first-aid procedures. A minimum of one individual per squad, crew, team, or equivalent-sized unit should be trained. 'The primary duty of this individual does not change. The additional duty of the combat lifesaver is to provide enhanced first aid for injuries based on his training before the combat medic arrives. The combat lifesaver's training is normally provided by medical personnel assigned, attached, or in direct support (DS) of the unit. The training program is managed by the senior medical person designated by the commander.

(2) Echelon I medical treatment is provided by the combat medic or by personnel in the BAS.

(a) Emergency medical treatment (EMT) (immediate far forward care) consists of those lifesaving steps that do not require the knowledge and skill of a physician. The combat medic is the first individual in the CHS chain who makes medically-substantiated decisions based on medical military occupational specialty (MOS)-specific training.

(b) The physician and the physician assistant (PA) in a treatment squad are trained and equipped to provide advanced trauma management (ATM) to the battlefield casualty. This element also conducts routine sick call when the situation permits. Like elements provide this echelon of care in divisions, corps, and communications zone (COMMZ) units.

(c) Echelon I medical care is provided by–

- Medical platoons / sections [Figure 1-2) of combat and combat support (CS) battalions.
- Divisional medical companies.
- Corps and COMMZ area support medical companies (ASMCs).

b. Echelon II care is provided at the clearing station which is operated by the treatment platoon of the medical company. Here the patient is evaluated to determine his priority for continued evacuation to the rear, or is treated and returned to duty. Emergency care, including beginning resuscitation, is continued and, if necessary, further emergency measures are instituted; however, these measures do not go beyond the measures dictated by the tactical situation. Those patients who can RTD within 72 hours are held for treatment. Units providing Echelon II care are located in the combat zone (CZ) (brigade support area [BSAJ, division support area [DSA], corps support area [CSA], and the COMMZ.

c. Echelon III care is provided in medical treatment facilities (MTFs) staffed and equipped to provide care for all categories of patients (combat support hospital [CSH]) and for patients whose wounds make them nontransportable and require surgical care by a surgical squad / detachment or a mobile army surgical hospital [MASH) prior to further evacuation. The MASH is normally deployed in the division rear area and is located close to the division clearing station.

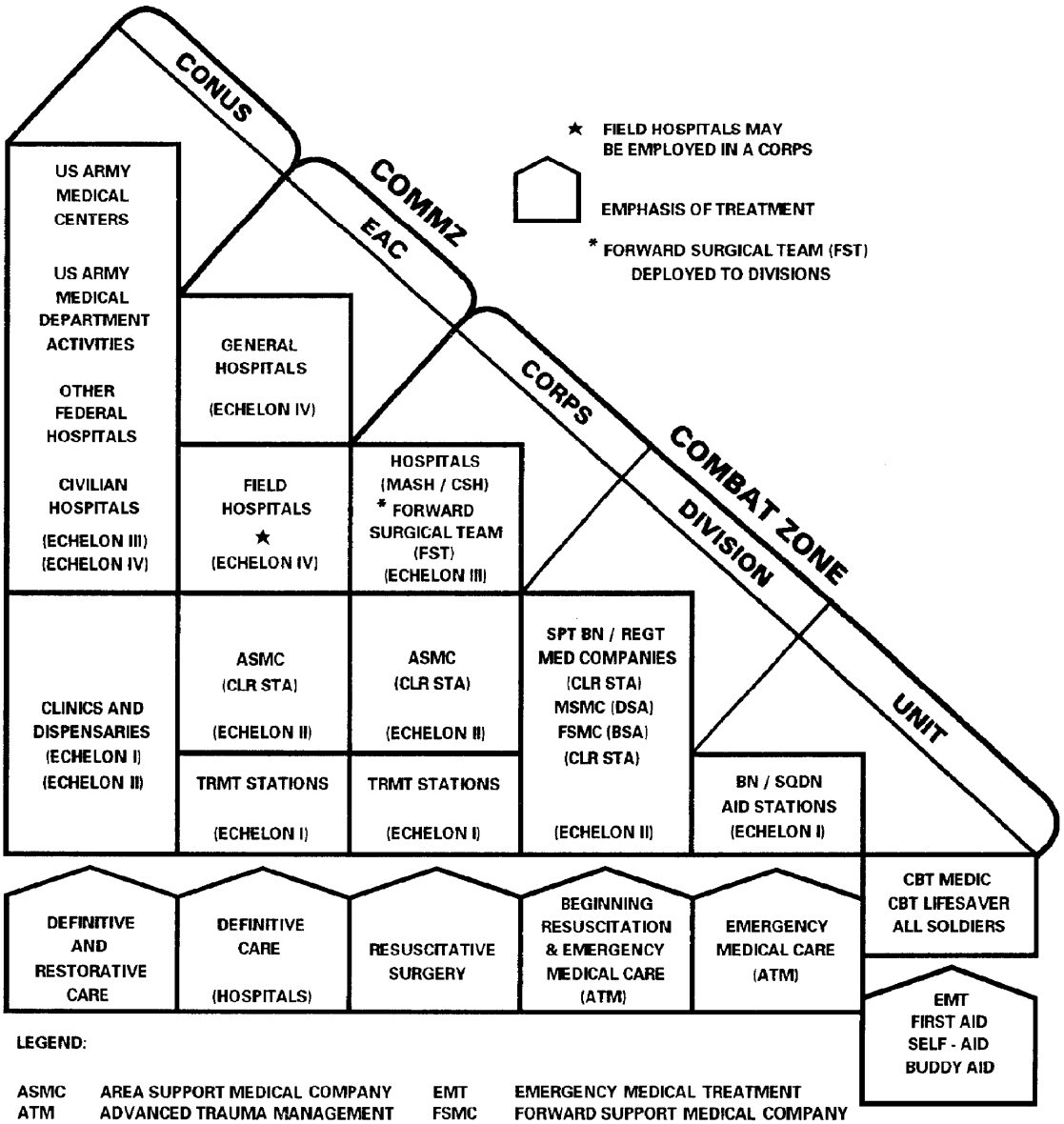
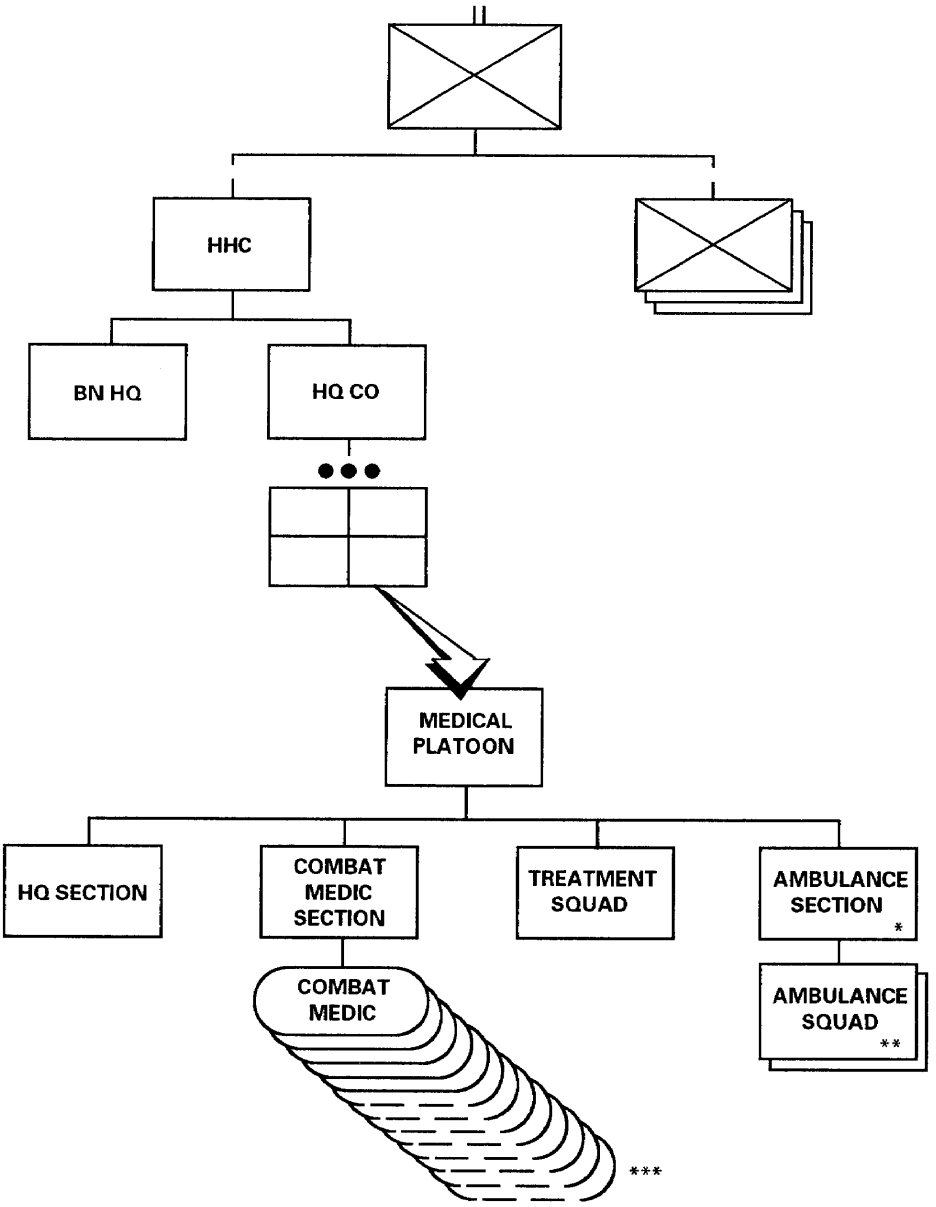


Figure 1-1. Echelons of care.



NOTE:

* MECHANIZED INFANTRY AND ARMOR UNITS HAVE 4 AMBULANCE SQUADS.

** TWO AMBULANCE TEAMS.

*** AIRBORNE AND AIR ASSAULT UNITS HAVE 12, LIGHT INFANTRY UNITS HAVE 9, ARMOR UNITS HAVE 5, AND MECHANIZED INFANTRY UNITS HAVE 13.

Figure 1-2. Medical platoon.

d. Echelon IV medical care enables the patient to be treated in a general hospital (GH) staffed and equipped for general and specialized medical and surgical care, or a field hospital (FH) which provides rehabilitative and convalescent care for those patients who are expected to RTD within the theater evacuation policy. These units are normally located in the COMMZ.

1-3. The Medical Threat and Medical Intelligence

a. The medical threat is a composite of all ongoing or potential enemy actions and environmental conditions that may render a soldier combat ineffective. The soldier's reduced effectiveness results from sustained wounds, injuries, stress-induced performance deterioration, or diseases. The elements of the medical threat include, but are not limited to—

- Diseases endemic to the area of operations (AO).
- Environmental factors (heat, cold, humidity, and significant elevations above sea level).
- Battle injuries from conventional and nuclear, biological, and chemical (NBC) and directed-energy (DE) weapons/devices.
- The level of compliance with the law of war and the Geneva Conventions (Appendix A) requirements regarding "respect and protection" of medical personnel, medical facilities, and transportation means.
- Physiologic and psychological stressors.

b. In order to develop the CHS estimate and plan (Appendix B), the CHS planner obtains updated medical intelligence through intelligence and other channels. Medical intelligence is the product resulting from the collection, evaluation, analysis, integration, and interpretation of all available general health and bioscientific information. Medical intelligence is concerned with one or more of the medical aspects of foreign nations or AO. Until medical information is appropriately processed (ordinarily on the national level by the Armed Forces Medical Intelligence Center [AFMICI), it is not considered to be intelligence.

For additional information on the medical threat and medical intelligence, refer to paragraph 1-13 and to FM 8-10, FM 8-10-8, FM 8-42, and FM 8-55.

1-4. Planning for Combat Health Support

a. The extended and nonlinear battlefield stretches CHS capabilities to the maximum. It presents unprecedented challenges to the CHS planner as well as to the tactical commander. While the responsibility for what is or is not done is the tactical commander's alone, he must rely on his staff and his subordinate commanders to execute his decisions. It is imperative that the CHS planner be

involved in the initial stages of the planning process. A thorough understanding of the tactical commander's plan is necessary for the CHS commander to sustain the tactical commander during the absence of orders or communications. Combat health support planning is an intense and demanding process. The CHS planner must know what the organic capabilities of the supported units are and—

- WHAT each supported element will do.
- WHEN it will be done.
- HOW it will be accomplished.

b. The CHS planner must foresee actions beforehand to be able to plan for positive and responsive support to each element supported. He must be prepared to meet the requirements for—

- Patient evacuation (to include training of nonmedical personnel to serve as litter bearers) and medical regulating.
- Hospitalization.
- Health service logistics, to include blood management.
- Preventive medicine (PVNTMED) services.
- Veterinary services.
- Dental services.
- Combat stress control.
- Command, control, communications, computers, and intelligence (C^4I).
- Medical laboratory services.
- Area medical support.

c. To ensure effective support, the CHS planner must stay abreast of the tactical commander's plans and objectives. This ensures that the CHS plan provides the flexibility to meet changes in the CHS requirements. To this end, commanders and their staffs must coordinate horizontally and vertically with both medical and nonmedical staffs, Commanders must be able to reallocate medical resources as the tactical situation changes.

d. On the integrated battlefield, medical units can anticipate situations in which large numbers of patients are produced in a relatively short period of time. These mass casualty situations

may exceed local CHS capabilities (Appendix C). Key factors for effective mass casualty management are on-site triage, EMT, effective communications, and skillful evacuation by ground and air resources.

- The objective of providing the greatest good for the greatest number is achieved by medical units maximizing the use of available resources and prioritizing missions.

- To free medical personnel from nontreatment duties, nonmedical personnel may have to serve as litter bearers, perform rescue operations, or perform other nonmedical tasks, as required.

e. Combat health support planning is an intricate process which enables the CHS commander to develop the most effective and flexible plan for providing CHS to the tactical commander. Appendix B provides a sample of the CHS estimate and the CHS plan. For additional information on the planning for CHS, refer to FM 8-10, FM 8-42, FM 8-55, FM 101-10-1/1, and FM 101-10-l/2.

1-5. Principles of Combat Health Support

a. Conformity. Conformity with the tactical plan is the most fundamental element for effectively providing CHS. Only by participating in the development of the operation plan (OPLAN) can the CHS planner ensure adequate support at the right time and the right place.

b. Continuity. Combat health support must be continuous since an interruption of treatment may cause an increase in morbidity and mortality. No patient is evacuated any farther to the rear than his physical condition or the military situation requires.

c. Control. Technical control and supervision of medical assets must remain with the appropriate force-level surgeon. Combat health support staff officers must be proactive and keep their commanders apprised of the impact of future operations on CHS resources. The CHS system must be responsive to a rapidly changing battlefield and must support the tactical OPLAN in an effective manner. The medical commander must be able to tailor CHS organizations and direct them to focal points of demand throughout his AO. Treatment performed at each echelon of the CHS system must be commensurate with available CHS resources. Since these resources are limited, it is essential that their control be retained at the highest CHS level consistent with the tactical situation.

d. Proximity. The location of CHS assets in support of combat operations is dictated by the tactical situation (mission, enemy, terrain, troops, and time available [METT-T] factors), time and distance factors, and availability of evacuation resources. The speed with which medical treatment is initiated is extremely important in reducing morbidity and mortality. Medical evacuation time must be minimized by the efficient allocation of resources and the judicious location of MTFs. The MTFs cannot be located so far forward that they interfere with the conduct of combat operations or are subjected to enemy interference. Conversely, they must not be located so far to the rear that medical treatment is delayed due to the lengthened evacuation time. Further, the location of the

MTFs may be affected by the level of conformance to the Geneva Conventions protections by the combatants.

e. *Flexibility*. Since a change in tactical plans or operations may require redistribution or relocation of medical resources to meet the changing requirements, no more medical resources should be committed nor MTFs established than are required to support expected patient densities. When the patient load exceeds the means available for treatment (mass casualty situation), it may be necessary to give priority to those patients who can be returned to duty the soonest, rather than those who are more seriously injured. This ensures manning of the tactical commander's weapons systems.

f. Mobility. Since contact with supported units must be maintained, CHS elements must have mobility comparable to that of the units they support. Mobility is measured by the extent to which a unit can move its personnel and equipment with organic transportation. When totally committed to patient care, a CHS unit can regain its mobility only by immediate patient evacuation.

1-6. Capabilities of the Combat Health Support System

a. The CHS capabilities of each echelon are designed to meet the characteristics of the operational environment. They play a specific part in the phased treatment, hospitalization, and evacuation of sick, injured, or wounded soldiers. Each successive echelon of CHS has the capabilities to perform functions of the lower echelon and has additional capabilities that cannot be located farther forward. This allows higher CHS echelons to regenerate lower echelons and to provide CHS on an area basis.

b. Prevention begins with the individual soldier's awareness of the means to protect himself against DNBIs through health and personal hygiene education, stress management, proper nutrition, physical fitness, safety procedures and training, and other similar measures. This awareness is further enhanced through—

- Expanded self-aid, buddy aid, and combat lifesaver training programs.
- Continuous interface with Echelons I and II treatment personnel.
- Preventive medicine programs.
- Combat stress control training.
- Leadership emphasis at all levels of command.

NOTE

Prevention is the most effective, least expensive method of providing the tactical commander with sustained combat power. The key to prevention begins with soldiers maintaining a high level of personal hygiene.

c. Medical elements within the division require flexibility and responsiveness if they are to provide effective and timely CHS. Effective CHS enables rapid treatment and RTD for those casualties who are either sick or suffering from minor wounds or injuries. More seriously wounded patients are provided prompt stabilizing treatment and evacuated to an MTF equipped to provide for their medical conditions.

1-7. Army Medical Department Battlefield Rules

The Army Medical Department (AMEDD) has developed medical battlefield rules to aid in establishing priorities and resolving conflicts for competing priorities within CHS activities.

a. These battlefield rules are (in order of their priority) to–

- Maintain medical presence with the soldier.
- Maintain the health of the command.
- Save lives.
- Clear the battlefield.
- Provide state-of-the-art care.
- Return soldiers to duty as early as possible.

b. For additional information, refer to FM 8-55.

1-8. Modular Medical Support System

a. General. The modular medical support system was designed to standardize all medical subelements in Echelons I and H. The divisional medical units and Echelon II units in the corps and COMMZ are based on this design. This system enables the medical resources manager to rapidly tailor, augment, reinforce, or regenerate CHS units as needed. This system is designed to acquire, receive, and triage patients and to provide EMT and ATM. Combat health support originates in the forward areas (divisions) with the combat medic (Echelon I). From this point, the patient is evacuated to the BAS (Echelon I) and then to the division clearing station (Echelon II). The ASMC provides Echelons I and II CHS on an area basis to units operating in the corps and COMMZ.

b. Modular Medical Support System. The modular medical support system is built around six modules. These modules are oriented to casualty collection, treatment, and RTD or evacuation.

(1) *Combat medic. The* combat medic module consists of one combat medical specialist and his prescribed load of medical supplies and equipment.. Combat medics are organic to the medical platoons or sections of combat and CS battalions and are attached to the companies of the battalions.

(2) *Ambulance squad.* An ambulance squad is comprised of four medical specialists and two ambulances. This squad provides patient evacuation throughout the division (and/or corps and COMMZ) and medical care en route. Ambulance squads are organic to the medical platoons or sections in the maneuver battalions and division/nondivisional medical companies and the ASMCs. In the division medical company, ambulance squads maybe collocated with the BAS or forward sited with the companies of the maneuver brigades.

(3) *Treatment squad.* This squad consists of a primary care physician, a PA, and six medical specialists. The squad is trained and equipped to provide ATM to the battlefield casualty or to treat and return him to duty. Advanced trauma management is physician- or PA-directed emergency medical care designed to resuscitate and stabilize the patient for evacuation to the next echelon of medical care. To maintain contact with the combat maneuver elements, each squad has two vehicles equipped with trauma treatment medical equipment sets (MESS). Each squad can split into two treatment teams (one team is headed by the physician and the other by the PA). These squads are organic to medical platoons or sections in maneuver and designated CS units, as well as being the basic building block of the medical company.

(4) *Area support squad.* This squad is comprised of one dentist trained in ATM, a dental specialist, an x-ray specialist, and a medical laboratory specialist. The squad is organic to the medical companies within the BSA, DSA, CSA, or COMMZ.

(5) *Patient-holding squad.* This squad consists of two practical nurses and two medical specialists. It is capable of holding and providing minimal care for up to 40 (20 in the light infantry division [LID]) RTD patients. This squad is also organic to the medical companies within the BSA, DSA, CSA, or COMMZ.

NOTE

When a treatment squad, an area support squad, and a patient-holding squad are collocated, they form an area support section. This section provides CHS on an area basis to all forces within a geographical area of responsibility (clearing station). The area support section normally operates in the BSA, DSA, CSA, or COMMZ. The area support and patient-holding squads are incapable of independent operations.

(6) *Medical detachment (surgical,) and surgical squad.* The medical detachment (surgical) is a corps asset and is an augmentation to Echelon II CHS. It deploys as far forward as necessary to support division/task-force operations. This detachment must collocate with a patient-holding squad for support. Each airborne and air assault division has two surgical squads which are organic to the main support medical company (MSMC). Both the corps medical detachment (surgical) and the airborne and air assault division organic surgical squads have the same basic design. They are organized to provide early resuscitative surgery for seriously wounded or injured casualties, to

save lives, and to preserve function. Early surgery is performed whenever a likely delay in the evacuation of a patient threatens life or is anticipated to significantly affect the quality of recovery. The task-force medical detachment (surgical) and organic surgical squads will normally be employed in the DSA, but may be employed in the BSA during task-force operations. (Normally, the medical detachment (surgical) is attached to a treatment platoon and collocated with the division clearing station or possibly an ASMC). Postsurgical patients, awaiting evacuation, are held by the patient-holding squad with nursing care provided by the nurses of the surgical module.

Section II. COMBAT HEALTH SUPPORT FUNCTIONAL AREAS

1-9. General

The CHS continuum encompasses all of the functional areas within the AMEDD, to include C^4I. However, C^4I will not be discussed in this chapter; it is included throughout the manual as appropriate. Within the division, the full spectrum of services are provided by a combination of organic, assigned, attached, in DS, and in general support (GS) CHS resources.

1-10. Patient Evacuation and Medical Regulating

a Patient Evacuation. The systematic evacuation of sick, injured, or wounded soldiers within US Forces has been an evolutionary process. The current organizational design and doctrine are based on years of experience and the assimilation of lessons learned. Medical evacuation encompasses—

- Collecting the wounded for evacuation.
- Sorting (triage).
- Providing an evacuation mode.
- Providing medical care en route.
- Anticipating complications and being ready and capable to perform emergency medical intervention.

(1) *Responsibilities.* For medical evacuation, the gaining echelon is responsible for arranging for the evacuation of patients from lower echelons of care. For example, Echelon II medical units are responsible for evacuating patients from Echelon I medical units. Medical evacuation

begins when medical personnel receive the sick, injured, or wounded soldier and continues as far rearward as the patient's medical condition warrants, or the military situation requires.

(2) *Theater evacuation policy*. The theater evacuation policy is established by the Secretary of Defense, with the advice of the Joint Chiefs of Staff, and upon the recommendation of the theater commander. The policy establishes in the number of days, the maximum period of noneffectiveness (hospitalization and convalescence) that patients may be held within the theater for treatment. This policy does not mean that a patient is held in the theater of operations (TO) for the entire period of noneffectiveness. A patient who is not expected to be ready for RTD within the number of days established in the theater evacuation policy is evacuated to CONUS or some other safe haven. This is done providing that the treating physician determines that such evacuation will not aggravate the patient's disabilities or medical condition. For example, a theater evacuation policy of days does not mean that a patient will beheld in the TO for 29 days and then evacuated. Rather, it means that a patient is evacuated as soon as it is determined that he cannot be returned to duty within 30 days following admission.

- To the degree that unplanned increases in patients occur (epidemic or heavy combat casualties), a temporary reduction in the policy may be required. This reduction is used to adjust the volume of patients being held in the TO hospital system. A reduction in the evacuation policy increases the number of patients requiring evacuation out of the TO, and it increases the requirement for evacuation assets. This action is necessary to relieve the congestion caused by the patient increases.

- The time period established in the theater evacuation policy starts on the date the patient is admitted to the first hospital (CZ or COMMZ). The total time a patient is hospitalized in the theater (including transit time between MTFs) for a single, uninterrupted episode of illness, injury, or wounding should not exceed the number of days stated in the theater evacuation policy. Though guided by the evacuation policy, the actual selection of a patient for evacuation is based on clinical judgement as to the patient's ability to tolerate and survive the movement to the next echelon of hospitalization.

This paragraph implements STANAGs 2087 and 3204, QSTAG 529, and Air STDs 44/36A and 61/71.

(3) *Evacuation precedences.* The determination to request medical evacuation arid assignment of a precedence is made by the senior military person present. This decision is based on the advice of the senior medical person at the scene, the patient's condition, and the tactical situation. Assignment of a medical evacuation precedence is necessary. The precedence provides the supporting medics] unit and controlling headquarters with information that is used in determining priorities for committing their evacuation assets. For this reason, correct assignment of precedence cannot be overemphasized; overclassification remains a continuing problem. Patients are picked up for evacuation as soon as possible, consistent with available resources and pending missions. The following categories of precedence and the criteria used in their assignment are:

(a) Priority I–URGENT is assigned to emergency cases that should be evacuated as soon as possible and within a maximum of 2 hours in order to save life, limb, or eyesight, to prevent complications of serious illness, or to avoid a permanent disability.

(b) Priority IA–URGENT-SURG is assigned to patients who must receive far forward surgical intervention to save life and stabilize them for further evacuation. (This precedence applies primarily to those patients requiring care at a MASH deployed in the division rear area.)

(c) Priority II–PRI0RITY is assigned to sick, injured, or wounded personnel requiring prompt medical care. This precedence is used when the individual should be evacuated within 4 hours or his medical condition could deteriorate to such a degree that he will become an URGENT precedence, or whose requirements for special treatment are not available locally, or who will suffer unnecessary pain and disability.

(d) Priority III–ROUTINE is assigned to sick, injured, or wounded personnel requiring evacuation, but whose condition is not expected to deteriorate significantly. The sick and wounded in this category should be evacuated within 24 hours.

(e) Priority IV-CONVENIENCE is assigned to patients for whom evacuation by medical vehicle is a matter of medical convenience rather than necessity. (This can include battle fatigue casualties (BFCs).

(4) *Evacuation request and procedures.* Refer to Appendix D for a discussion of the evacuation request format and required procedures.

(5) Use *of nonmedical transportation assets.*

(a) When the medical evacuation system becomes overwhelmed with patients, as in a mass casualty situation, nonmedical transportation assets are required to move the wounded. Prior planning to incorporate this requirement into the OPLAN ensures that the use of these assets is integrated with the dedicated medical evacuation platforms. When the use of nonmedical transportation assets is planned, augmentation medical personnel should be requested to provide medical care en route on these vehicles. Table 1-1 depicts the coordination requirements for the use of nonmedical vehicles.

(b) For BFCs, the use of nonmedical transportation is preferred, if available. Further, ground transportation is preferred to air transport. Coordination is required to arrange for the backhaul of BFCs on general purpose transportation assets. The BFC should be escorted by CSC personnel or evacuated in medical ambulances.

b. Medical Regulating. Medical regulating is the coordination and control of moving patients to MTFs which are best able to provide required specialty care. This system is designed to ensure the efficient and safe movement of patients.

(1) *Purpose.* Medical regulating entails identifying patients awaiting evacuation, locating available hospital beds, and coordinating the transportation means for movement.

Table 1-1. Coordination Requirements for Nonmedical Transportation Assets and Medical Augmentation to Provide En Route Medical Care

ELEMENT REQUIRING SUPPORT	TYPE OF TRANSPORTATION	COORDINATE TRANSPORTATION WITH	MEDICAL AUGMENTATION FOR EN ROUTE MEDICAL CARE COORDINATED WITH
Company Aid Post	Ground	Company	Battalion Aid Station
Battalion Aid Station	Ground	Maneuver Battalion S4	*FSMC
Clearing Station (BSA)	Ground	DMOC-MCO	*MSMC
		DMOC	*MSMC
	Air	G3 Air	
Clearing Station (DSA)	Ground	DMOC-MCO	*Corps Med Gp/Bde
		DMOC	
	Air	G3 Air	*Corps Med Gp/Bde
Clearing Station (Corps)	Ground	ASMC	
	Air	Med Evacuation Battalion	
Engineer Battalion/ Company	Ground	FSB Spt Ops	*FSMC/*MSMC
	Air	G3 Air	
Field Artillery Battalion/ Battery	Ground	FSB/MSB Spt Ops	*FSMC/*MSMC
	Air	G3 Air	*FSMC/*MSMC
Other Units without organic medical support operating in division area	Ground	DMOC-MCO	*FSMC/*MSMC
		Corps MCT	
		*FSMC/*MSMC	
	Air	G3 Air	

*In coordination with DMOC, if applicable.

LEGEND:

ASMC	AREA SUPPORT MEDICAL COMPANY	FSMC	FORWARD SUPPORT MEDICAL COMPANY
BSA	BRIGADE SUPPORT AREA	MCO	MOVEMENT CONTROL OFFICER
DSA	DIVISION SUPPORT AREA	MCT	MOVEMENT CONTROL TEAM
DMCO	DIVISION MEDICAL OPERATIONS CENTER	MSB	MAIN SUPPORT BATTALION
FSB	FORWARD SUPPORT BATTALION	MSMC	MAIN SUPPORT MEDICAL COMPANY

(a) Careful control of patient evacuation to appropriate hospitals is necessary to—

- Effect an even distribution of cases.
- Ensure adequate beds are available for current and anticipated needs.
- Route patients requiring specialized treatment to the appropriate MTF.

(b) The factors which influence the scheduling of patient movement include—

- Patient's medical condition (stabilized to withstand evacuation).
- Tactical situation.
- Availability of evacuation means.
- Locations of MTFs with special capabilities or resources.
- Current bed status.
- Surgical backlogs.
- Number and location of patients by diagnostic category.
- Location of airfields, seaports, and other transportation hubs.
- Communications capabilities (including radio silence procedures).

(2) *Division medical operations center.* Medical regulating in and from the division is the responsibility of the division medical operations center (DMOC) (patient disposition and reports branch). Medical regulating in the division is informal and is usually operated procedurally so as not to depend solely on communications to effect rapid evacuation. The medical regulating function of the DMOC is concerned primarily with—

- Tracking the movement of patients throughout the division MTFs and into corps facilities.
- Monitoring the location of corps air and ground ambulance assets in support of the division.
- Coordinating with the corps medical evacuation battalion when it becomes obvious that more assets are needed.

(a) Corps air and ground ambulances placed in GS of the division are usually field sited in the division rear and tasked by the DMOC. When these assets go forward to the MSMC

or forward support medical company (FSMC) to evacuate patients to corps MTFs, they have corps MTF destinations predetermined (blocks of beds). The DMOC, in coordination with the medical group medical regulating office (MRO), establishes the number of patients a supporting corps hospital can accept during a particular period of time. These blocks of available beds are then provided to the GS ambulances prior to the call for the mission.

- Once an evacuation mission is completed, the originating division MTF contacts the patient disposition section of the DMOC and provides patient numbers by category and precedence; departure times; modes of transportation; destination MTFs; and any other information required by the tactical standing operating procedure (TSOP) (Appendix E).

- The DMOC, in turn, notifies the medical group MRO via the patient administration net, which is monitored by the corps MTF's. Since the corps ground ambulances have no on-board communications capability and air ambulances have no amplitude modulated-high frequency (AM-HF) capability at present, all patient information is passed to the gaining MTFs via the patient administration net. To reduce turnaround time for ground ambulances and to move more seriously ill, injured, or wounded patients to the CSHs in the corps rear, air ambulances are given blocks of beds in the corps hospitals farther to the rear and ground ambulances are normally given blocks of beds in the more forward deployed CSHs.

(b) Patient evacuation can be effected immediately, procedurally, and under conditions of communications silence without interrupting the continuum of care by—

- Preparing casualty estimates.
- Prioritizing and task-organizing ambulance support.
- Assigning blocks of hospital bed designations prior to the start of a mission.

(3) *Additional information.* For additional information on medical regulating, refer to FM 8-10, FM 8-10-3, and FM 8-10-6.

1-11. Hospitalization

The hospitalization capability is found in Echelons III and IV. Each hospital type serves a specific, primary role and is capable of handling all categories of patients (except the MASH). The CSH, FH, and GH are internally structured in a modular form to permit incremental increases or decreases for varied patient work loads and mission adaptability. To provide an emergency surgical intervention capability in the division area, the MASH may be deployed to the DSA. The DMOC assists in regulating trauma patients to this facility for stabilization prior to further evacuation to the rear.

b. The medical company, holding, provides the division and nondivisional elements with additional capability for holding patients. It maybe used to hold battle fatigue (BF) and combat stress

patients in the division, corps, or COMMZ areas. Further, when a surgical squad is required in the DSA or CSA, this unit, as well as the surgical squad, can be collocated with a clearing station to provide a holding capability for preoperative and postoperative care. The medical-holding company provides 1,200 cots for the convalescence and reconditioning of RTD patients. It is minimally staffed and equipped, and provides for basically self-care patients who are expected to RTD. Major capabilities include—

(1) The ability to task organize by separating the company into five holding platoons, each capable of operating 240 cots. These elements can be attached to augment a hospital, a clearing station, or a CSC medical company/detachment.

(2) Minor medical treatment and physical and occupational rehabilitation.

1-12. Health Service Logistics and Blood Management

a. Health Service Logistics. Health service logistics support is an integral part of the CHS system. Health service logistics includes medical supplies and equipment, medical equipment maintenance, blood management (discussed in *b* below), and optical fabrication.

(1) Medical supplies (class VIII [Class VIIIa-pharmaceuticals/biologicals and Class VIIIb-blood]) consist of medical materiel to include medical-peculiar repair parts used to sustain the CHS system. The Class VII system is under the direction of the US Army Surgeon General. It is a specialized subsystem of the Army's logistics system. The Class VIII system basically follows the requirements of the AR 700-Series with exceptions provided in AR 40-61. Certain character sties set the Class VIII system apart from other commodities and place unique requirements on Army medical materiel managers. These characteristics are the—

- Protected status afforded Class VIII supplies under the provisions of the Geneva Conventions. It is, therefore, necessary to store and distribute medical materiel separately from other classes of supply for it to be considered protected materiel.

- Overriding requirements for a materiel system that is immediately and completely responsive to the health care providers.

- Integral function that health service logistics plays in the patient treatment and evacuation system for which the US Army Surgeon General has sole responsibility.

- Highly technical nature of the commodity and its extensive regulation by the federal government. Medical materiel must be stored under tightly controlled conditions and managed by highly trained professionals who are thoroughly knowledgeable in the specialized requirements of this commodity.

(2) Medical equipment maintenance ensures that life-sustaining equipment is fully mission capable. This support must be provided as far forward as possible. Maintenance planning

must reconducted concurrently with supply planning as the two areas are closely related. A good maintenance program will relieve strain on the supply system by identifying and repairing equipment that would otherwise require replacement. Properly authorized stockage list management improves maintenance turnaround when repair parts are required beyond prescribed load list (PLL) stockage capability.

(3) Optical support includes—

- Fabrication of single-vision and multivision prescription lenses.
- Fabrication of standard spectacles.
- Fabrication of aviation spectacles.
- Fabrication of ballistic/laser protection spectacle inserts.
- Provision for contact lens for selected aviators.
- Military standard spectacle frame repair.

(4) Medical resupply in the division includes–

(a) Combat lifesauer. The normal medical resupply of the combat lifesaver, who is assigned to a battalion with organic medical support, is through the senior medic assigned to that medical organization (for example, the senior company medic assigned to the medical platoon's BAS). Combat lifesavers, whose unit does not have organic medical support, will be resupplied by the medical unit providing area medical coverage (that is, an FSMC/MSMC or Echelon III medical facility). Emergency medical resupply of the combat lifesaver can be provided by the combat medic; however, it must be noted that the combat medic does not carry all of the medical items required by the combat lifesaver (for example, the combat lifesaver carries 500 milliliter [ml] of intravenous [IV] fluid, while the combat medic carries 1,000 ml of IV fluid).

(b) Combat medic. Resupply of the combat medic is the responsibility of the BAS. This mission is handled and supervised by medical personnel. The combat medic requests his supplies from the BAS. This action is riot a formal request so it can be either in oral *or* written form. The requests are delivered to the BAS by whatever means are available. Usually this is accomplished by the driver or the medic in the ambulance returning to the BAS with patients. The ambulance then transports the requester's supplies forward from the BAS. This system is referred to as backhaul. Commonality of supplies between the combat medic and the ambulance MES may allow the ambulance crew to fill the combat medic's request from on-board stock. The ambulance crew can then replenish their stocks upon returning to the BAS.

(c) Battalion aid station. Resupply of forward deployed BASS is the primary responsibility of the division medical supply office (DMSO). The FSMC may provide emergency resupply of the BAS and transportation of the medical supplies via their ground ambulances effecting

backhaul distribution. The normal resupply will be from the DMSO using unit distribution (UD). The DMSO will coordinate transportation through the division movement control center (DMCC) for divisional or corps transportation assets operating in the DSA an BSA. The DMSO should coordinate with the medical logistics (MEDLOG) battalion (forward) for possible throughput of medical supplies directly to the BSA for support of the FSMC and medical platoons.

(d) Forward support medical company and main support medical company. Resupply of the FSMC and MSMC is accomplished by the DMSO. The DMSO provides medical supply support to all units within the division area. Requests may come by message (with returning ambulances), by land line, or through existing communications nets within the division. Requests for medical supplies from BASs, FSMCs, and MSMCs are filled or forwarded to the MEDLOG battalion (forward).

(e) Division medical supply office. Resupply of the DMSO is provided by the MEDLOG battalion (forward).

(5) Medical maintenance is the responsibility of the unit commander. The scope of medical maintenance ranges from basic mechanical equipment to complicated medical electronic equipment such as an x-ray machine. If an item of medical equipment in the BAS requires unit maintenance, the supporting medical equipment repairer is contacted for maintenance. Medical maintenance support is provided by the medical equipment repairer (unit) assigned to each medical company or the DMSO. If an item of equipment cannot be repaired at the unit level, then the unit must notify the DMSO who requests a mobile support team from the MEDLOG battalion to repair it. The equipment will be repaired if the maintenance service falls within its capability. Any equipment requiring service beyond the capability of the MEDLOG battalion (forward) is further evacuated to the COMMZ. Low-density lifesaving diagnostic and therapeutic equipment is repaired or replaced immediately. The MEDLOG battalion maintains a Medical Standby Equipment Program (MEDSTEP) of designated items. Direct exchange for low-density lifesaving equipment through the use of the MEDSTEP maybe employed if necessary. Reparable exchange assemblies, modules, and printed circuit boards are also used. (For additional information on MEDSTEP, refer to AR 40-61.)

(6) The DMSO, located in the main support battalion (MSB), is responsible for providing medical supply and medical maintenance support to the medical treatment elements within the division. The DMSO operates using supply point distribution. Medical supplies and equipment are moved using the backhaul system when ambulances returning to the forward areas transport this materiel.

(a) The health service materiel officer (HSMO) executes the health service logistics plan. He exercises his responsibilities by—

- Procuring, storing, and issuing Class VIII supplies.
- Coordinating with the supported elements to determine requirements for Class VIII materiel and red blood cells (RBCs).

- Developing and maintaining authorized stockage levels of contingency medical supplies. These levels should be based upon transportation and storage constraints as well as the characteristics of the AO.

- Managing the division health service logistics quality assurance program.

- Supervising the unit-level medical equipment maintenance program.

- Monitoring the division medical assemblage management program.

- Coordinating logistical planning for the assembly, packing, and delivery of standard MESS and locally developed, unit-particular resupply sets.

- Establishing and operating the division Class VIII resupply system.

(b) The regeneration duties of the DMSO include—

- Coordinating with the DMOC to determine and acquire the number of medical assemblages needed to ensure units maintain medical readiness.

- Coordinating with the MEDLOG battalion (forward) to monitor the status of medical materiel requests.

- Coordinating through the DMOC for logistical support.

- Alerting the appropriate company when modular systems are due to arrive.

- Distributing modular medical assemblages to the units based on guidance from the commander or DMOC. (The DMSO coordinates with the DMCC through the DMOC for transportation assets to deliver modular medical assemblages to units being reorganized regenerated. The DMSO coordinates with the division materiel management center (DMMC) to record issues of major equipment and assemblages on property records.)

- Preparing critical items listing and consolidating the critical shortages by brigade.

(c) Coordination for delivery of medical supplies and equipment is accomplished through the DMOC with the—

- Intelligence/Operations and Training section (S2/S3) (division support operations branch) for the movement of bulk supplies or assemblages from the DMSO to forward units when backhaul would be inadequate. (The DMOC directs quick fixes using available assets and controlled exchanges for medical equipment to maximize the capability of returning trained soldiers to duty.)

- Corps MEDLOG battalion (forward) for delivery of supplies from the health service logistics facility to the DMSO.

b. Blood Management.

(1) The management and distribution of resuscitative fluids in the TO, including blood products, colloids, and crystalloid, is a health service logistics function.

(2) Liquid blood products enter the theater through the Unites States Air Force (USAF) Blood Transshipment Centers (BTCs) for further distribution to Army blood bank platoons located in the MEDLOG battalions (forward) and (rear). Army MTFs are supplied required blood products from the blood bank platoons. Mobile army surgical hospitals and Echelon II MTFs are supplied by the forward support platoons of the MEDLOG battalion (forward), if deployed. Liquid blood products, limited to Group O RBCs, are issued, as required, down to the division clearing stations.

(3) Blood and resuscitation fluid capabilities in the division area include—

- Echelon I care:
  - Resuscitation fluids-Ringers lactate solution.
  - Blood products–none.
- Echelon II care:
  - Resuscitation fluids-Ringers lactate solution.
  - Blood products–Group O RBCs.

(4) Health service logistics personnel provide RBCs to the medical laboratory elements in the medical company. The medical laboratory specialist ensures proper storage, documents the use of the blood, checks the blood units for hemolysis, and issues RBCs as needed.

(5) A discussion of the complete blood management system to include Echelons III (CSH and MASH) and IV (GH and FH) is provided in FM 8-10 and FM 8-55.

(6) A blood reporting system within the TO is established to project blood requirements, request blood, report inventories, and provide information on the overall blood management operations. Echelon II MTFs can only request Group O RBCs. Additional information on this report and reporting procedures is contained in Appendix F and FM 8-55.

1-13. Preventive Medicine Services

Historically, DNBIs have rendered more soldiers combat ineffective than actual battle casualties. Therefore, the medical threat must be recognized, analyzed, and measures taken to combat its effects.

The medical threat that accounts for the vast majority of combat noneffectiveness can be reduced to six broad categories. These are—

- Heat injuries caused by combinations of heat stress and insufficient water consumption.
- Cold injuries caused by combinations of inadequate clothing, low temperatures, wind, and wetness.
- Diseases caused by biting arthropods and animal bites.
- Diarrheal diseases and other enteric diseases caused by drinking nonpotable water, eating contaminated foods, and not practicing good individual hygiene and field sanitation.
- Diseases, trauma, or injuries caused by physical or mental unfitness.
- Environmental or occupational injuries caused by carbon monoxide, noise, blast overpressure, and solvents.

a. Brigade and division surgeons should monitor PVNTMED programs to ensure they are accomplished and/or to initiate programs that are required. Assistance with PVNTMED programs can be obtained from the PVNTMED section of the MSB or corps PVNTMED detachments. Command emphasis is needed to ensure that PVNTMED measures are practiced.

b. The company field sanitation team consists of two soldiers. The team is specially trained in water supply, food service sanitation, waste disposal (Appendix G), pest management, environmental injuries, and non-NBC chemical hazards. The field sanitation team serves as an aid to the unit commander in protecting the health of his command. Through regular inspections, the field sanitation team ensures sanitary standards are maintained and PVNTMED measures practiced. Preventive medicine personnel should not be assigned to the field sanitation team.

c. For additional information on PVNTMED doctrine and activities, refer to FM 8-10-7, FM8-2;0, FM21-10, and FM 21-10-1.

1-14. Veterinary Services

The US Army Veterinary Service provides support to all services: the Army, Navy, Air Force, and Marines, as well as other Department of Defense (DOD) and non-DOD federal agencies. There are no organic veterinary assets within the divisions, separate brigades, and armored cavalry regiments (ACRs). However, veterinary support is an integral part of the CHS system within the TO. Veterinary service within the theater includes—

- Inspection of subsistence.
- Inspection of food production, processing, and storage facilities.

- Control of foodborne disease.
- Maintenance of a directory of food sources sanitarily approved for Armed Forces procurement.
- Examination of food animals.
- Control of diseases transmitted from animals to humans.
- Examination and wholesomeness determination of food and food-producing animals in an NBC environment.
- Care and treatment of government-owned animals.
- Care and treatment of animals associated with civic action programs.
- Performance of allied health care missions, such as triage and emergency assistance in patient care.
- Performance of mobile veterinary laboratory operations.

1-15. Dental Services

Dental support is arranged in echelons, reflecting an increase in capability at each succeeding echelon. The functions of each lower echelon of dental support are contained within the capabilities of each higher echelon.

a. There are three dental care categories in a TO.

(1) Emergency care is the expedient dental treatment directed toward the relief of pain and management of infection and oral trauma.

(2) Sustaining care is the dental care necessary to keep the soldier functioning in his unit without further evacuation. This care is directed toward the correction of potential dental emergencies.

(3) Maintaining care consists of definitive dental care including routine dental procedures, prosthodontics appliances (dentures), minor oral surgical procedures, and a preventive dentistry program.

b. Division-level dental support includes emergency and sustaining dental care. The dental module at division level is composed of a dental officer and a dental specialist equipped with compact dental equipment. This equipment is lightweight and easily transported. A dental module is organic to the medical companies of the divisions, area support medical battalions (ASMBs), separate brigades, and Special Forces (SF) groups.

c. For additional information on dental services, refer to FM 8-10-19.

1-16. Combat Stress Control

Combat stress control is a system-oriented program to control stressors and stress behaviors. It is coordinated and conducted by mental health (MH) or CSC personnel. Of primary importance in this effort are the organic MH sections of divisions, separate brigades, and ASMBs and the MH staffs of the medical brigade and group headquarters. The organic MH sections are augmented when and where needed by CSC teams from corps-level CSC medical companies or detachments.

a. The CSC mission is to assist the commanders and medical units with CSC. The mission objectives are—

(1) *Primary prevention.* This objective is to predict and monitor known stressors and indices of stress in units. The command is advised on interventions to control these stressors and to promote positive combat stress behaviors such as unit cohesion.

(2) *Secondary prevention.* This objective relates to minimizing morbidity and contagion by sorting stress casualties and neuropsychiatric (NP) patients quickly, providing immediate treatment, and making disposition of those that can RTD.

(3) *Tertiary prevention. This* objective relates to minimizing long-term disability and post-traumatic stress disorders (PTSD), both in those soldiers who become stress casualties and those who do not..

b. Stress casualties include the following:

(1) Battle fatigue casualties encompass all forms of stress-induced performance impairment and emotional distress.

(2) Misconduct stress behaviors (MCSBs) are stress-induced behaviors which breech good discipline.

(3) Wounded-in-action (WIA) and DNBI cases may also be hidden stress casualties, if their recovery is delayed by unresolved traumatic stress issues.

(4) Individuals who develop PTSD are stress casualties, even though the syndrome is not manifested until months or years after the extreme stress has passed.

(5) Any casualty whose loss was substantially caused by stress-induced performance deterioration, negligence, or impaired resistance may be considered a stress casualty. These categories may include WIAs, DNBI, missing in action (MIAs), and prisoners of war (PWs).

c. The six functional areas within the CSC arena are—

(1) Consultation/liaison (preventive education and advice).

(2) Reorganization/regeneration support.

(3) Neuropsychiatric triage of stress and NP cases.

(4) Stabilization of seriously disturbed or disruptive cases.

(5) Restoration of BFCs for 1 to 3 days at CSC treatment elements close to the soldier's unit.

(6) Reconditioning treatment for 4 to 14 days (depending upon division/corps evacuation policy) at special CSC facilities further to the rear for cases who fail to improve sufficiently in restoration treatment.

d. For additional information, refer to FM 22-51.

1-17. Medical Laboratory Services

a. Medical laboratory assets function in CHS operations by analyzing body fluids and tissues to determine disease processes, or to identify microorganisms. The equipment and personnel available are limiting factors in the scope of services provided. The sophistication of laboratory services increases at each successive echelon of care.

b. Echelon II is the first level where a laboratory specialist is assigned. Medical laboratory assets at this echelon are adequate to the echelon of care, staffing, and necessity to maintain unit mobility. Laboratory tests are limited to manual procedures such as hematocrit (Hct), white blood cell (WBC) count, urinalysis (UA), and gram staining.

c. At Echelon III a laboratory officer or noncommissioned officer (NCO) is available. The numbers and types of tests which can be accomplished are increased at this echelon. Appendix H provides information on the types of procedures which can be accomplished by medical laboratories at Echelons II through IV.

1-18. Area Medical Support

Area medical support entails the provision of CHS by a designated unit to other units within a specified AO. This support is provided by Echelons I and II MTFs operating in both the CZ and COMMZ.

CHAPTER 2

THE MEDICAL COMPANY

Section I. The DIVISION MEDICAL COMPANIES

2-1. General

a. The division is the largest Army fixed organization that trains and fights as a tactical team. It is organized with varying numbers and types of combat, CS, and combat service support (CSS) units. A division maybe armored, mechanized infantry, light infantry, airborne, or air assault. Each type of division conducts tactical operations across the operational continuum. Divisions are the basic units of maneuver at the tactical level.

b. In all divisions, Echelon II medical care is provided by the FSMCs of the forward support battalions (FSBs) and the MSMC of the MSB. These units also provide Echelon I medical care to units without organic CHS resources. These support battalions are located in the division support command (DISCOM).

2-2. Types of Divisions

a. *Heavy Divisions.* The heavy divisions are comprised of the armored and mechanized infantry divisions. These forces provide mobile, armor-protected firepower. Because of their mobility and survivability, the heavy divisions are employed over wide areas where the y are afforded long-range and flat-trajectory fire. They destroy enemy armored forces and seize and control land areas, including populations and resources.

b. *Infantry Divisions.* The infantry divisions are comprised of the light infantry, airborne, and air assault divisions.

(1) *Light infantry division.* The organization of the LID provides the flexibility to accomplish missions on a global basis on different types of terrain and against a variety of enemy forces, Its operations are conducted primarily at night or during periods of limited visibility.

(2) *Airborne division.* The airborne division is organized to be rapidly deployed anywhere in the world. It conducts airborne assaults in the enemy's rear to secure terrain or to interdict routes of resupply or enemy withdrawal.

(3) *Air assault division.* The air assault division conducts combat operations over extended distances and terrain obstacles using light infantry, aviation, CS, and CSS units, Once deployed on the ground, air assault infantry battalions fight like those of the LID; however, the task organization of organic aviation permits rapid aerial redeployment.

(4) *Additional information.* For additional information on the organization and functions of the different, divisions, refer to FM 71-100.

2-3. The Division Commander and Staff

a. Command Group.

(1) *Division commander.* The division commander is responsible for everything the division does. He assigns missions, delegates authority, and provides guidance, resources, and support to accomplish the mission.

(2) *Assistant division commander.* Within a division there are two assistant division commanders. The commander prescribes their duties, responsibilities, and relationships with the staff and subordinate units. Normally, the responsibilities are broken down as operations and training (or maneuver) and support,

b. Staff

(1) *Chief of staff.* The chief of staff directs the efforts of both the coordinating and special staffs.

(2) Staff sections. The Assistant Chief of Staff (ACofS), G1 (Personnel), G2 (Intelligence), G3 (Operations), G4 (Logistics), and command sergeant major (CSM) function at the division level in much the same way as their counterpart staffs function at battalion and brigade level. The G5 is the civil-military operations (CMO) officer. This position is normally found only at division level or higher. A detailed discussion of the duties and responsibilities of each staff section is contained in FM 101-5.

(a) Assistant Chief of Staf, G1 (Personnel). The G1 is the principal staff officer for the division commander on all personnel matters. He is responsible for providing specific personnel services support to the force and managing command-wide soldiers' programs.

(b) Assistant Chief of Staff, G2 (Intelligence]. The G2 is the principal staff officer for the commander on all military intelligence matters. The G2 acquires intelligence information and data; analyzes and evaluates the information and data; and presents the assessment or evaluation and recommendations to the commander. This information must permit the commander to see the entire battlefield (that is, deep threat, covering force area, main battle area [MBA], and rear area). (Requests for medical intelligence are processed through established intelligence channels, Medical units should request specific and detailed information on the medical threat within the AO. Refer to FM 8-10-8 for additional information.)

(c) Assistant Chief of Staff, G-3 (Operations). The *G3* is the principal staff officer for the commander in matters concerning operations, plans, organization, and training. The nature of the operations officer's responsibilities requires a high degree of coordination with other staff members.

(d) Assistant Chief of Staff, G-4 (Logistics). The G4 is the principal staff officer for the commander in matters of supply, maintenance, transportation, and services. As the logistics

planner, he must maintain close and continuous coordination with the CSS commanders responsible for logistics operations and with the G3 for support of tactical operations.

*(e) Assistant Chief of Staff G5 (Civil-Military Operations).*The G5 is the principal staff officer for the commander in all matters concerning the civilian impact on military operations and the political, economical, and social effects of military operations on civilian personnel. He has staff responsibility for those activities embracing the relationship of the military forces, the civilian authorities, and the people in the AO.

2-4. Light-Heavy/Heavy-Light Mixes

Effective integration of light and heavy forces maximizes the capabilities of each type of force. It uses the advantages of one type to offset the limitations of the other. Not all situations are suitable for such mixes. In considering integration of light and heavy forces, planners must match the force to the METT-T planning factors. (Support to these forces is discussed in Chapter 4.)

2-5. Division Surgeon

a. The division surgeon is a special staff officer who is normally under the staff supervision of the G1. Generally, the surgeon's duties are administrative; the division commander charges him with the full responsibility for the technical control of all CHS activities in the command. The division surgeon advises the division commander on all CHS and CHS-related issues. Assisted by the DMOC, the surgeon is responsible for—

- Advising on the status of the health of the command and of occupied or friendly territory within the commander's area of responsibility.
- Reviewing all division OPLANs and contingency plans to identify potential medical hazards associated with geographical locations and climatic conditions.
- Advising on the medical effects of the environment and of NBC weapons on personnel, rations, and water.
- Determining requirements for the requisition, procurement, storage, maintenance, distribution management, and documentation for health service logistics materiel (Class VIII).
- Determining requirements for CHS personnel and making recommendations for their assignment.
- Coordinating with medical unit commanders and maneuver units' medical platoon leaders for continuous CHS.

- Submitting to higher headquarters those medical issues requiring research and development.
- Recommending use of captured Class VIII supplies in support of enemy prisoners of war (EPW) and other recipients.
- Advising on medical intelligence requirements.
- Providing recommendations on the allocation and redistribution of AMEDD personnel, health service logistics, and CHS assets during regeneration activities.
- Advising commanders about the PVNTMED and CSC aspects of regeneration.
- Advising commanders on the effects of accumulated radiation exposure, possible delayed effects from exposure to chemical and biological agents, and use of pretreatments.
- Planning and coordinating the following CHS operations:
  - Collection, treatment, and evacuation of sick, injured, and wounded personnel.
  - Dental services (in coordination with the dental surgeon).
  - Veterinary food inspection, animal care, and veterinary PVNTMED activities of the command.
  - Professional support in subordinate units.
  - Preventive medicine services (in coordination with the division PVNTMED officer).
  - Medical laboratory support.
  - Combat stress control (in coordination with the division psychiatrist).
  - Health service logistics, to include blood management.
  - Humanitarian assistance and disaster relief operations.
  - Combat health support aspects of rear operations.
  - Preparation and processing of required reports, to include the command health report.

b. An in-depth discussion of the duties and responsibilities of the division surgeon is contained in FM 8-10-5.

2-6. Division Support Command

a. Mission.

(1) The DISCOM provides division-level logistics and Echelons I (unit level) and II (division level) CHS to all organic elements of the division and, in certain cases, to nondivisional units in the division area.

(2) The DISCOM commander is the principal CSS operator of the division and exercises command authority over organic units. The division G4 has the coordinating staff responsibility for logistics planning. He develops division-level plans, policies, and priorities. The relationship between the division G4 and the DISCOM commander must be close due to the similarities in interests. The G4's planning role does not relieve the DISCOM commander of his responsibilities. The commander provides planning guidance during the formulation of plans, estimates, policies, and priorities.

(3) The G3, G4, and the DISCOM commander usually locate the DISCOM elements in the DSA and BSAs. The FSBs of the heavy and light divisions are positioned in the BSAs to best support committed brigades. The remaining DISCOM elements are located in the DSA to provide area support to corps and divisional units in the division rear area and backup support for the FSBs. Elements of the FSB may be forward of the BSA, and other DISCOM units, such as the MSB, may have elements in the BSA.

b. Combat Service Support. The DISCOM provides the following CSS:

- Support of Classes I (to include water purification and limited distribution), II, III, IV, VI, VII, VIII, and IX supplies.
- Ammunition transfer points (ATPs) within the BSA.
- Reinforcing maintenance support and limited backup unit maintenance support for all common and missile materiel organic to the division, and aviation intermediate maintenance (AVIM) support for all aviation elements.
- Materiel management for the division.
- Surface transport for personnel, supplies, and equipment to accomplish division logistics and administrative missions, to include supplemental ground transportation to support emergency requirements.
- Supervision and coordination for DISCOM transportation assets.
- Automatic data processing (ADP) support for division logistics activities.
- Materiel collection and classification facilities.

- Limited capability to carry reserve supplies.
- Combat service support information and advice to the division commander and his staff, except for construction.
- Echelons I and II CHS on an area basis. This includes medical staff services, intradivision evacuation of patients, Class VIII supply and resupply, and unit-level maintenance of medical equipment.
- Rear area operations planning considerations.
- Unclassified maps (requesting, storing, and distributing).
- Interface and coordination with the other services and allied units.

2-7. Division Medical Operations Center

a. The mission of the DMOC, under the technical supervision of the division surgeon, is to plan, coordinate, and synchronize CHS. This includes—

- Emergency medical treatment.
- Advanced trauma management.
- Emergency and sustaining dental treatment.
- Preventive dentistry.
- Limited radiological services.
- Limited medical laboratory services.
- Neuropsychiatric consultation and CSC.
- Preventive medicine.
- Limited optometry services.
- Medical evacuation support (air and ground ambulance).
- Class VIII resupply.
- Medical maintenance.

- Allocation of medical resources.
- Medical augmentation support.
- Patient-holding capability.
- Blood management.

b. The DMOC is responsible for synchronizing CHS operations so that maximum use of organic division medical units and corps medical elements under operational control (OPCON) or attachment is achieved. It is also responsible for coordinating DS and GS relationships of medical units operating in the division AO.

c. Figure 2-1 depicts the DMOC. (For additional information on the organization, operation, and functions of the DMOC, refer to FM 8-10-3.)

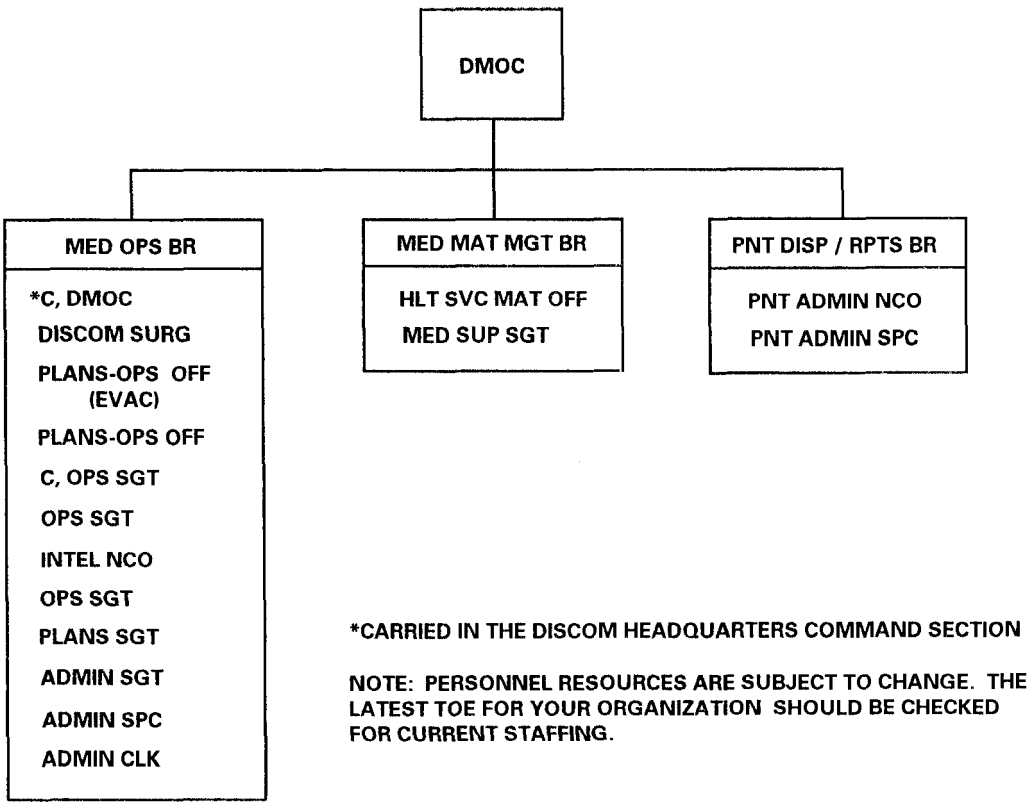


Figure 2-1. Division medical operations center.

2-8. Forward Support Medical Company

a. Mission. The FSMC provides Echelon II medical care to those battalions with organic medical platoons. This company provides both Echelons I and II medical treatment on an area basis to units without organic CHS assets operating in BSAs. The FSMC establishes its treatment facility (division clearing station) in the BSA.

b. Functions. The FSMC performs the following functions:

- Treatment of patients with DNBI and BF, triage of mass casualties, ATM, initial resuscitation and stabilization, and preparation of patients incapable of returning to duty for further evacuation.
- Ground evacuation for patients from BASS and designated collecting points to the FSMC.
- Emergency and sustaining dental care.
- Emergency medical resupply to units in the brigade area,
- Unit-1evel medical maintenance.
- Medical laboratory and radiology services commensurate with division-level treatment.
- Outpatient consultation services for patients referred from Echelon I MTFs.
- Patient holding for up to 40 patients (20 patients in the LID) able to RTD within 72 hours.
- Limited reinforcement and augmentation to supported medical platoons.
- Regeneration of supported medical platoons.
- Coordination with the battalion S1 (Adjutant) for required religious support (unit ministry team [UMT]).

c. Organization. The FSMC plays a vital role in manning the force by providing division- and unit-level CHS to all units operating in the supported brigade area. As shown in Figure 2-2, the company consists of a company headquarters, treatment platoon, and ambulance platoon.

(1) *Company headquarters.* The company headquarters (Table 2-1) provides command and control (C^2) of the company and attached medical units. It also provides administration, general and medical supply, NBC defensive operations, and communications support. In the multifunctional battalions, food service support and unit maintenance are consolidated at the battalion level. Further, patients requiring a modified diet are evacuated to a CSH where both patient

rations (Medical B Rations) and personnel trained in modified diet preparation (MOS 91M) are available. The headquarters may be organized into command, supply, operations and communications, dining facility, and motor pool elements.

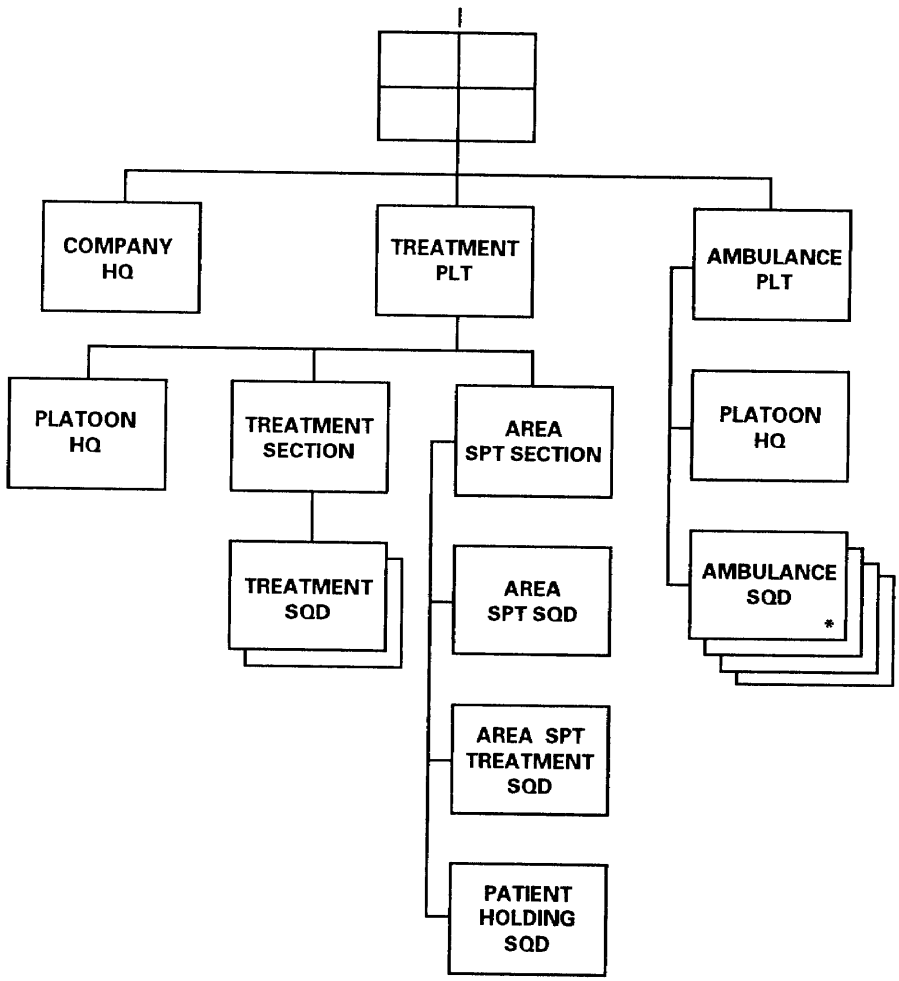


Figure 2-2. Forward support medical company.

(a) Forward support medical company commander. The commander, a physician, also serves as the brigade surgeon and keeps the brigade commander informed on the CHS aspects of brigade operations and the health of the command. (For additional information on the duties and responsibilities of the brigade surgeon, refer to paragraph 2-9 and FM 8-10-5.) He regularly attends brigade staff meetings to obtain information to facilitate medical planning. Specific duties of the FSMC commander include—

- Ensuring implementation of the CHS section of the TSOP.
- Determining the allocation of CHS resources within the brigade.
- Supervising the technical training of medical personnel and combat lifesavers in the BSA.
- Determining procedures, techniques, and limitations in the conduct of routine medical care, EMT, and ATM.
- Monitoring requests for medical evacuation from supported units,
- Informing the division surgeon and the DMOC of the brigade's CHS situations.
- Supervising the activities of subordinate battalion surgeons,
- Assuming technical supervision of all PAs and medical section NCOs organic to subordinate units in the absence of their assigned physician.
- Monitoring the health of the command and advising the commander of measures to counter DNBI.
- Providing the CHS estimate and medical threat input for inclusion in the commander's estimate.
- Supervising all planning activities to ensure such planning is synchronized laterally and vertically.

(b) Health services administration assistant. The health services administration assistant (also referred to as the medical operations officer) serves as the company executive officer. He is the principal assistant to the commander in the employment of the company assets. The medical operations officer ensures liaison with the battalion staff and the other supported organizational staffs when deemed appropriate by the FSB commander. He also supervises and coordinates the security, planning, tactical operations, communications, operations security (OPSEC), logistics, and training functions of the company.

Table 2-1. Organization and Staffing of Company Headquarters, Forward Support Medical Company

COMPANY HEADQUARTERS

(Command Element)

Company Commander/Brigade Surgeon
Health Services Administration Assistant/Executive Officer
First Sergeant
Unit Clerk/Switchboard Operator

(Supply Element)	**(Operations Element)**
Unit Supply Sergeant	NBC Operations NCO
*Medical Equipment Repairer	Senior Radio Operator
Medical Supply Specialist	Single Channel Radio Operator
Armorer	Operator/Mechanic, Tactical Communications Systems

*Not present in the heavy divisions.

(c) Supply element. The supply element provides general supply and armorer support for the company. It provides emergency medical supply and routine medical equipment maintenance support for the company and for supported medical elements in the BSA. This element is staffed with a unit supply sergeant, a medical equipment repairer (except in the heavy divisions), a medical supply specialist, and an armorer.

(d) Operations element. This element plans, coordinates, and trains NBC defense functions; operates the company wire communications net; serves as the net control station (NCS) for the company operations nets; and performs unit-level maintenance on all FSMC communications-electronics (C-E) equipment.

(e) Additional information. For additional information on communications, refer to paragraph 3-5.

(2) *Treatment platoon.* The treatment platoon (Table 2-2) receives, triages, treats, and determines the disposition of patients. The platoon provides for ATM, general medicine, and general dentistry. The platoon consists of a platoon headquarters, an area support section, and a treatment section. For communications, the platoon employs seven tactical radios and operates its own NCS. It is deployed in the FSMC wire communications net.

Table 2-2. Organization and Staffing of a Forward Support Medical Company Treatment Platoon

TREATMENT PLATOON

PLATOON HEADQUARTERS

*Platoon Leader
Health Services Administration Assistant
Platoon Sergeant
Patient Administration Specialist/Radio Operator/Driver

TREATMENT SECTION		AREA SUPPORT SECTION
Treatment Squads (1st Squad)		Area Support Treatment Squad
Field Surgeon	"A"	*Field Surgeon
Physician Assistant	"B"	EMT NCO
EMT NCO	"A"	Medical Specialist
EMT NCO	"B"	Medical Specialist/Radio
Medical Sergeant	"B"	Operator/Driver
Medical Specialist	"A"	
Medical Specialist/Radio Operator/Driver	"A"	Area Support Squad
Medical Specialist/Radio Operator/Driver	"B"	Dental Officer
		Dental Specialist
		Medical Laboratory Specialist
Treatment Squad (2d Squad)		X-ray Specialist
Field Surgeon	"A"	
Physician Assistant	"B"	Patient-Holding Squad
EMT NCO	"A"	
EMT NCO	"B"	Wardmaster
Medical Sergeant	"B"	Practical Nurse
Medical Specialist	"A"	Medical Specialist, Nursing Assistant/Power Generator Operator/5-Ton Truck Driver
Medical Specialist/Radio Operator/Driver	"A"	
Medical Specialist/Radio Operator/Driver	"B"	Medical Specialist, Nursing Assistant/Power Generator Operator/5-Ton Truck Driver

LEGEND:
"A" --Alpha Team
"B" --Bravo Team
* Serves as platoon leader and field surgeon of the area support section.

(a) Platoon headquarters. The treatment platoon headquarters is the C^2 element of the platoon. It determines and directs the disposition of patients and coordinates for their further evacuation. For communications, this element uses the FSMC wire net and employs a frequency modulation (FM) tactical radio mounted in its assigned vehicle.

1. Platoon leader. The platoon leader directs, coordinates, and supervises platoon operations and assumes command of the company when the commander is absent. This officer is also the physician on the area support treatment squad and directs the activities of the clearing station.

2. Health services administration assistant. The health services administration assistant is the platoon operations officer. He is the primary assistant to the platoon leader for tactical operations, OPSEC, communications, administration, organizational training, supply, transportation, and patient regulating and evacuation.

3. Platoon sergeant. The platoon sergeant assists the platoon leader and the health services administration assistant in accomplishing their duties. He assists in the management of both the technical and tactical operations of the platoon. The platoon sergeant provides guidance and training to the assigned enlisted personnel.

4. Patient administration specialist. The patient administration (PAD) specialist is responsible for patient accountability and status reporting. This function includes initiating the DD Form 1380 (US Field Medical Cards [FMCs)] on patients seen and treated or held in the clearing station; preparing and maintaining the Daily Disposition Log (DDL); and preparing and transmitting the Patient Summary Report (PSR) and the Patient Evacuation and Mortality Report (PE&MR). (For additional information on these reports, refer to Appendix F.) The PAD specialist also maintains the individual field medical record in accordance with AR 40-66 (Appendix I). The PAD specialist drives and maintains the high-mobility multipurpose wheeled vehicle (HMMWV) assigned to the platoon headquarters. He, along with the medical specialist in the area support section, operates the treatment platoon's FM radio NCS.

(b) Area support section. The area support section operates the division clearing station. It consists of an area support treatment squad, an area support squad, and a patient-holding squad. These three elements operate as a single treatment unit and provide Echelons I and II medical support for units operating in the BSA. Elements of this section are not normally used to reinforce or reconstitute Echelon I units. Further, they normally are not used on area damage control teams.

1. Area support squad. The area support squad is comprised of the dental arid diagnostic support elements of the division clearing station. The dental element provides emergency dental care to include treatment of minor maxillofacial injuries, sustaining dental care designed to prevent or intercept potential dental emergencies, and limited preventive dentistry and consultation services. The diagnostic element comprises a medical laboratory and field x-ray capability. Medical laboratory services in Echelon II MTFs are adequate to the echelon of care and the necessity to maintain unit mobility. To augment area medical support efforts within the division,

these specialists have the capability to collect diagnostic samples and transfer them to higher echelon medical laboratories for analyses. The area support squad consists of the following personnel:

- *Dental officer.* The dentist examines, diagnoses, treats, and prescribes treatment for diseases, abnormalities, and defects of teeth and their supporting structures. He also serves as the brigade dental surgeon. Further, this officer (in his alternate wartime role) triages and performs ATM, supervises the activities of the area support squad, and monitors all dental activities within his AO.

- *Dental specialist.* This specialist assists the dental officer in the examination and treatment of the teeth and the oral region. He also performs dental x-rays and maintains the dental MES.

- *Medical laboratory specialist.* The medical laboratory specialist performs clinical laboratory and blood banking procedures to aid the physicians, PAs, and paraprofessionals in the diagnosis, treatment, and prevention of diseases. (Additional information on the procedures available at this level is contained in Appendix H.)

- *X-ray specialist.* This specialist performs routine clinical x-ray procedures to aid physicians, PAs, and paraprofessionals in the diagnosis and treatment of patient conditions. He interprets physician's orders, applies radiation and electrical protective measures, operates and maintains fixed and portable x-ray equipment, and takes x-rays of the extremities, chest, trunk, and skull. He assembles x-ray film and performs automatic radiographic film processing (darkroom) procedures. The x-ray specialist also maintains the x-ray film file for patients remaining within the division, or arranges for films to accompany those patients evacuated out of the division. Further, he operates and maintains the assigned power generator.

2. Patient-holding squad. The patient-holding squad operates the holding facility of the division clearing station. The primary function of this 40-cot (20 cots in the LID) holding facility is to provide nursing care for patients awaiting evacuation and for those patients being held for DNBI, to include BF and minor NP patients that are expected to RTD within 72 hours. However, the division commander, on the advice of the command surgeon, may extend this holding period up to 96 hours under certain battlefield conditions.

- *Wardmaster.* This NCO supervises patient-holding operations and carries out doctors' orders. He performs preventive and therapeutic nursing procedures and EMT; provides technical guidance and training to assigned personnel; and plans and executes the disestablishment, movement, establishment, and operations of the holding facility.

- *Practical nurse.* The practical nurse assists the wardmaster in accomplishing his duties. He performs preventive and therapeutic nursing procedures and EMT procedures. He also provides technical guidance to the assigned medical specialists.

- *Medical specialists/nursing assistants.* These nursing assistants perform EMT procedures, routine nursing care procedures, and operate and maintain the assigned vehicles.

3. Area support treatment squad. The area support treatment squad is the base medical treatment element of the division clearing station. It provides troop clinic-type services and ATM. This squad, in coordination with the DMSO, may also provide limited emergency medical resupply of supported medical units operating in the BSA. The primary care physician of this squad is also the treatment platoon leader.

- *Field surgeon.* He diagnoses, treats, and prescribes courses of treatment for patients. As the treatment platoon leader, he directs the activities of the division clearing station.

- *Emergency medical treatment noncommissioned officer.* This NCO performs EMT procedures, assists the medical and dental officers, and supervises the activities of the assigned medical specialists.

- *Medical specialists.* These specialists assist in routine sick call procedures and perform EMT. They also operate and maintain assigned signal equipment and vehicle.

(c) Treatment section. The treatment section is composed of two treatment squads ("first" and "second" squad). These squads perform routine medical care and ATM. Each FSMC treatment squad is identical to the treatment squad of the maneuver battalion medical platoon. Each squad has the capability to operate as separate treatment teams (A and B) for a limited period of time. These squads provide sick call operations, EMT, and ATM. The field surgeon plans and supervises the activities of the treatment squad. He examines, treats, and prescribes courses of treatment in the care of patients; provides ATM for the seriously injured or wounded; and supervises the care and treatment provided patients by other members of his squad. Each squad employs two trauma and two sick call MESs (one of each type per treatment team), two vehicles, and two tactical radios (FM voice). Initially, these squads are located with the area support section to provide expanded capability for the division clearing station. Their primary role, however, is to provide augmentation to maneuver battalion medical platoons. These squads/teams are routinely placed OPCON to supported maneuver battalions. They are normally attached to the battalion medical platoon under the OPCON of the battalion surgeon.

1. Field surgeon. He examines, diagnoses, treats, and prescribes courses of treatment for patients. This officer also directs the activities of the division clearing station.

2. Physician assistant. This officer performs general technical health care and administrative duties. He is ATM qualified and works under the clinical supervision of the field surgeon. He treats patients, and when the division clearing station must operate in a jump configuration or split team mode, he leads the "B" team.

3. Emergency medical treatment noncommissioned officer. This NCO performs EMT procedures, assists the medical and dental officers, and supervises the activities of assigned medical specialists. He also maintains MESs and secures and maintains medical supplies and blood products. This NCO assists in establishing and disestablishing the MTF.

4. *Medical specialists.* These specialists assist in routine sick call procedures and perform EMT. They also operate and maintain FM radios and maintain their assigned vehicle.

(3) *Ambulance platoon.* The ambulance platoon performs ground evacuation from BASS in the forward areas to the division clearing station in the BSA. The FSMC ambulance platoon is staffed as depicted in Table 2-3. The ambulance platoon comprises a platoon headquarters, four ambulance squads in a LID (or five in a heavy division, or three in the air assault division), one control vehicle, and ambulances (eight HMMWV in a LID or six HMMWV and four M113s in a heavy division). The platoon leader directs the platoon and plans for its employment.

(a) Platoon leader. This officer (health services administration assistant) commands the platoon and plans for its employment. He establishes and maintains contact with supported BASs; makes route reconnaissance; develops and issues strip maps; and establishes ambulance exchange points (AXPs) for both ground and air ambulances, as required.

(b) Platoon sergeant. This NCO assists the platoon leader in planning and employing platoon assets. He provides direct supervision and training of enlisted personnel to include operator maintenance.

(c) Aide/evacuation noncommissioned officers. These NCOs supervise ambulance squads and serve as ambulance squad leaders. They perform EMT procedures and evacuate patients while providing medical care en route. They also operate and maintain the assigned radios.

(d) Aide/evacuation specialists. These specialists serve as team leaders, perform EMT necessary to prepare patients for movement, and provide for their continued careen route. They also operate and maintain their assigned radios.

(e) Medical specialists/ambulance drivers. These individuals perform EMT, operate vehicles to evacuate patients, and perform preventive maintenance on ambulances and associated equipment.

2-9. Brigade Surgeon

a. The FSMC commander is dual hatted as the brigade surgeon (except for the aviation brigade). His duties and responsibilities as the brigade surgeon include, but are not limited to—

- Ensuring the implementation of the CHS section of the division TSOP.
- Determining the allocation of CHS resources within the brigade.
- Supervising the technical training of medical personnel and the combat lifesaver program within the brigade.

Table 2-3. Organization and Staffing of a Forward Support Medical Company Ambulance Platoon

AMBULANCE PLATOON

Platoon Headquarters
Health Services Administration Assistant/Platoon Leader
Platoon Sergeant

Ambulance Squad (1st Squad)*
Senior Aide/Evacuation NCO**
Aide/Evacuation Specialist
Medical Specialist/Ambulance Driver

Ambulance Squad (2d Squad)*
Aide/Evacuation Specialist
Medical Specialist/Ambulance Driver

Ambulance Squad (3d Squad)*
Senior Aide/Evacuation NCO*
Aide/Evacuation Specialist
Medical Specialist/Ambulance Driver

Ambulance Squad (4th Squad)*
Aide/Evacuation Specialist
Medical Specialist/Ambulance Driver

Ambulance Squad (5th Squad)***
Aide/Evacuation Specialist
Medical Specialist/Ambulance Driver

NOTES:
*2 ambulance teams
**Supervises 2 to 3 ambulance squads
***Heavy division only

- Developing and monitoring the medical evacuation plan (ground and air) which supports the brigade's maneuver plan.

- Writing the CHS portion of brigade TSOP, OPLANs, and operation orders (OPORDs).

- Monitoring requests for aeromedical evacuation from supported units.

Monitoring the health of the command and advising the commander on measures to counter the medical threat.

- Monitoring and assisting units with their mild to moderate BF cases and determining the capability to restore BFCs within the brigade's AO.

- Informing the division surgeon and the DMOC of the brigade's CHS situation.

- Supervising corps medical elements within the brigade's AO when directed.

- Exercising technical control over subordinate battalion surgeons.

- Assuming technical supervision of PAs organic to subordinate units in the absence of their assigned physicians.

- Advising PAs assigned to artillery and engineer battalions, as required.

b. An in-depth discussion of the brigade surgeon's duties and responsibilities is contained in FM 8-10-5.

2-10. Main Support Medical Company

The MSMC provides Echelons I and II medical care to units without organic CHS resources operating in the DSA. Its organization is depicted in Figure 2-3, The MSMC establishes the DSA clearing station and—

- Provides advice and guidance to the MSB commander and his staff on the health of the command and CHS activities.

- Performs triage, initial resuscitation and stabilization, and preparation for evacuation of sick, injured, and wounded personnel.

- Provides medical evacuation support on an area support basis in the DSA. (Corps ambulances are normally used to evacuate patients from the BSA; however, this mission could be assigned to the MSMC.)

- Provides treatment squads which may operate independently from the division clearing station for limited time periods.

- Provides reorganization and regeneration of FSB medical personnel and equipment, if required.

- Provides emergency and preventive dentistry care and consultation services.

- Provides emergency NP and MH support consultation services, to include CSC throughout the division.

- Performs medical resupply to division and nondivisional units on an area basis.

- Provides patient-holding capabilities of up to 40 patients who are able to RTD within 72 hours.

- Provides limited pharmacy, laboratory, and radiology (x-ray) (PLX) support.

- Accomplishes PVNTMED and environmental health surveillance, inspection, and consultation services for division units.

- Provides optometric support limited to eye examinations, spectacle frame assembly using presurfaced single-vision lenses, and repair services.
- Performs unit-level maintenance on medical equipment.

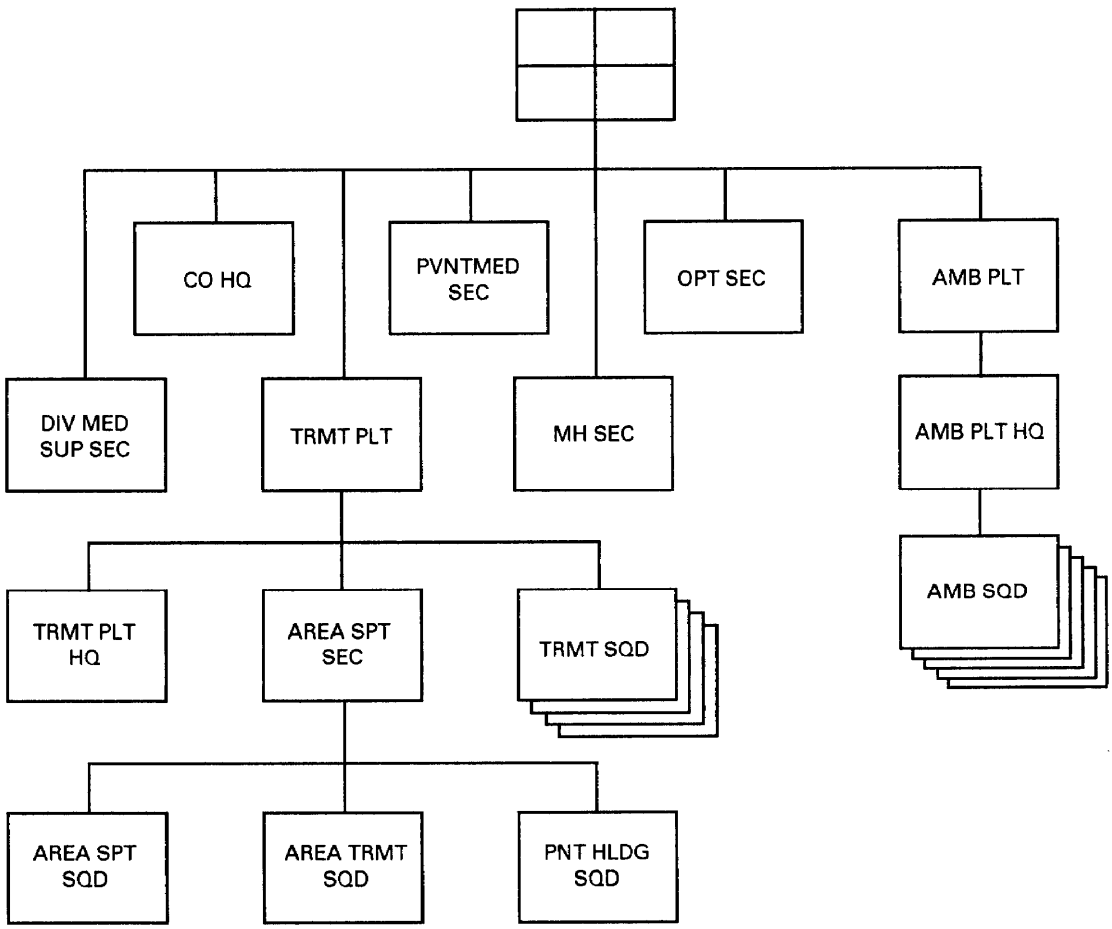


Figure 2-3. Typical organization of the main support medical company.

Section II. THE MEDICAL TROOP IN THE ARMORED CAVALRY REGIMENT

2-11. General

a. The ACR (Figure 2-4) is used by the corps commander as a reconnaissance and security force. The ACR is capable of engaging in decisive combat to help achieve the overall goal of destroying the enemy's cohesion to fight and win. The ACR is a self-contained force around which a covering force is built. Further, it provides an economy-of-force structure for use in the main battle area (MBA) for offensive and defensive operations.

b. The ACR is augmented by other corps and division assets as are required, such as field artillery (FA), air defense artillery (ADA), engineers, attack helicopters, and tactical aircraft.

c. The duties and responsibilities of the regimental surgeon are the same as those of the brigade surgeon discussed in paragraph 2-9.

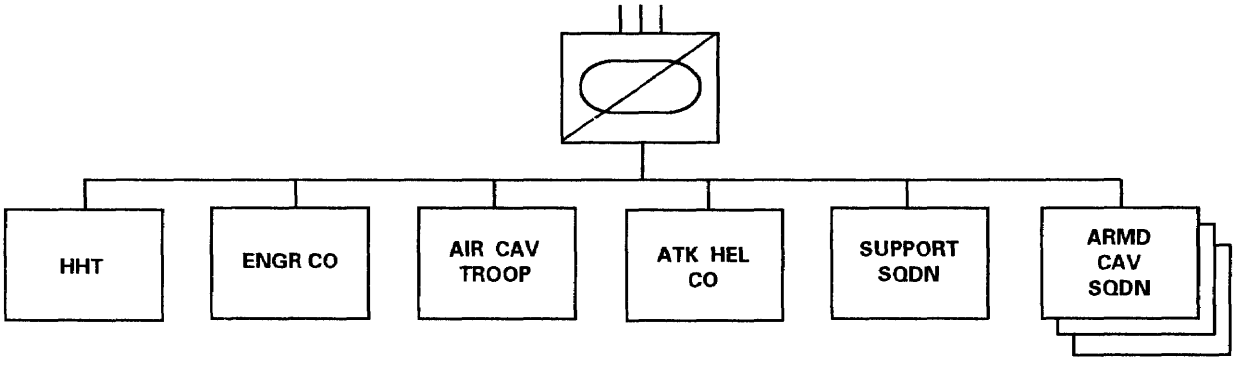


Figure 2-4. Armored cavalry regiment.

2-12. Armored Cavalry Regiment Medical Troop

a. The mission of the ACR medical troop is to provide Echelons I and II medical care within the ACR. The ACR medical troop is depicted in Figure 2-5.

b. The capabilities of this unit are to—

- Provide C^2 of attached medical elements (including CHS planning; policies and procedures; support operations; and medical evacuation coordination for movement of patients within and out of the regiment AO).

- Advise the regiment commander and support squadron commander on the health of the command and other CHS activities affecting the regiment.

- Develop, prepare, and coordinate the CHS portion of OPLANs and OPORDs.

- Allocate medical resources (personnel and equipment) to all assigned and attached units of the regiment.

- Perform triage, initial resuscitation and stabilization, and preparation for further evacuation of patients generated in the regiment rear area.

- Provide ground evacuation for patients from Echelon I MTFs.

- Deploy treatment squads to perform reinforcement/augmentation to maneuver squadrons' medical platoons. (These squads/teams are routinely placed OPCON to supported maneuver squadrons. They are normally attached to the squadron medical platoon under the OPCON of the squadron surgeon.)

- Provide health service logistics and medical equipment maintenance repair parts and support to the regiment on an area support basis. (The regiment medical supply section [RMSS] maintains a 5-day stock of emergency *push* packages and individual medical items. Emergency supply requests are sent to the supporting MEDLOG battalion [forward] or the nearest medical unit.)

- Provide dental support (including treatment of maxillofacial injuries; emergency dental treatment; sustaining dental care designed to prevent or intercept potential dental emergencies; and limited preventive dentistry.)

- Provide laboratory service commensurate with the regiment's Echelon II facility.

- Perform patient holding for up to 40 patients awaiting evacuation or RTD within 72 hours.

- Provide outpatient consultation services for patients referred from Echelon I MTFs.

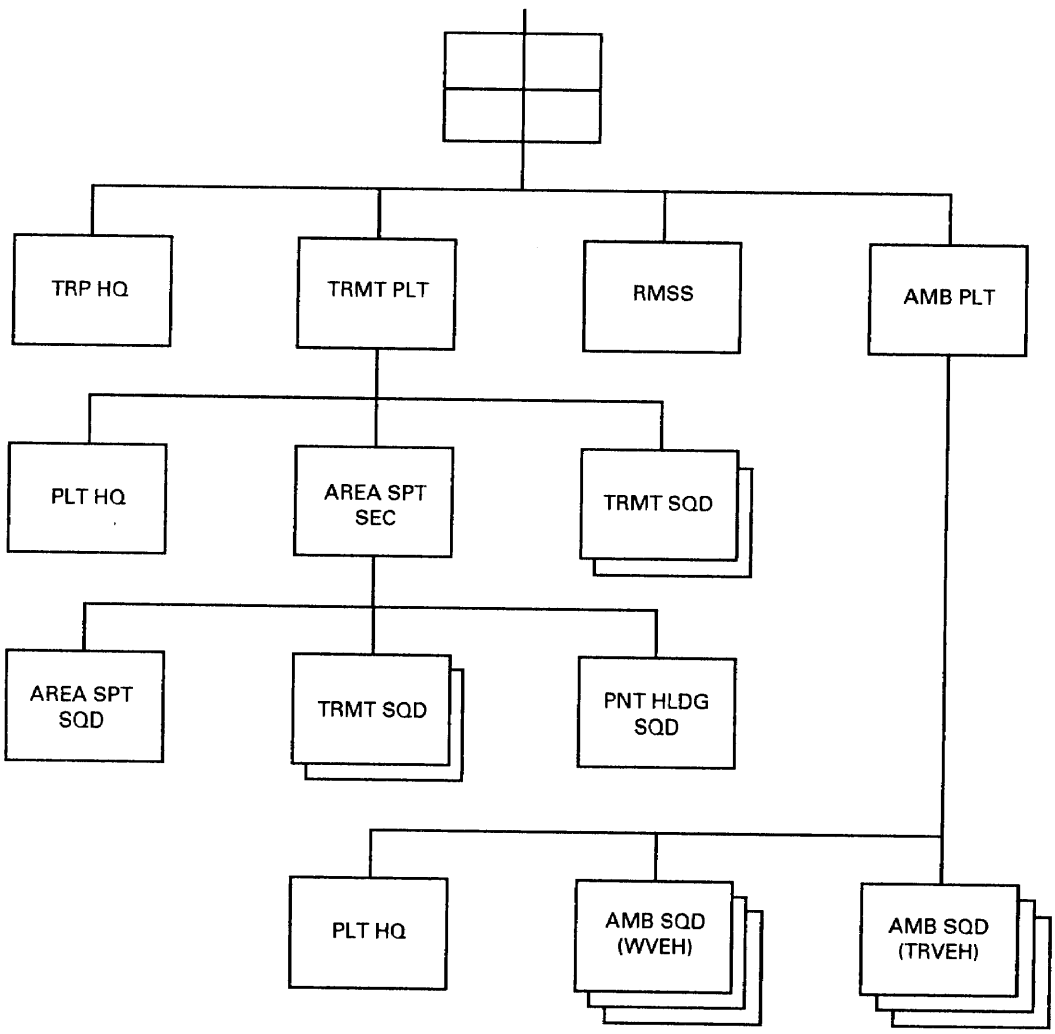


Figure 2-5. Medical troop, support squadron, armored cavalry regiment.

Section III. THE CORPS/COMMUNICATIONS ZONE AREA SUPPORT MEDICAL COMPANY

2-13. General

a. Echelons I and II CHS to corps and COMMZ is provided by the ASMC. This care is provided on an area basis to supported units.

b. This section provides only an overview of the unit's organization, mission, and functions. For an in-depth discussion of the ASMC and the ASMB, refer to FM 8-10-24.

2-14. Organization and Functions

a. The ASMC is organized as depicted in Figure 2-6.

b. The capabilities of the ASMC include—

- Treatment of patients with DNBI and BF.
- Triage of mass casualties.
- Initial resuscitation and stabilization for evacuation of patients incapable of returning to duty within 72 hours.
- Treatment squads which are capable of operating independently of the ASMC for a limited period of time.
- Ground evacuation of patients from units within their AO to the treatment squads of the ASMC.
- Emergency medical supply and resupply to units operating within their assigned AO.
- Pharmacy, laboratory, and radiology (x-ray) services commensurate with Echelon II CHS.
- Emergency dental care, to include stabilization of maxillofacial injuries, sustaining dental care designed to prevent or intercept potential dental emergencies, and limited preventive dentistry.
- Patient holding for up to 40 patients.

- Outpatient consultation services for patients referred from Echelon I CHS facilities.

- Food service support to staff and patients of the ASMC and to other medical elements dependent upon the ASMC for food service support. Patients requiring a modified diet are evacuated to corps/COMMZ hospitals where both patient rations (medical B rations) and personnel trained in the preparation of modified diets (MOS 91M) are available. Refer to FM 8-10-24 and FM 8-505 for additional information.

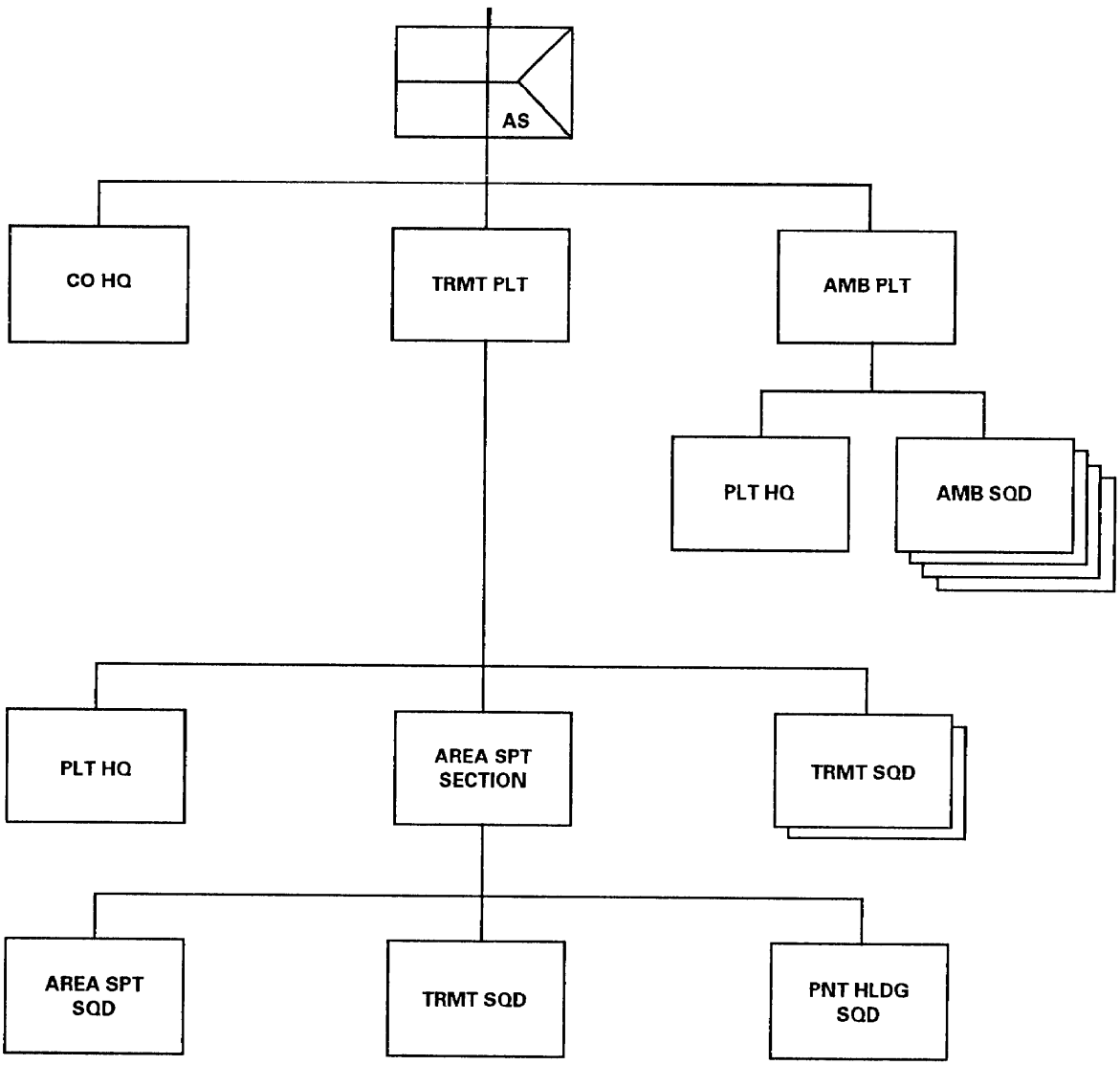


Figure 2-6. Typical organization of the area support medical company.

CHAPTER 3

MEDICAL COMPANY OPERATIONS

3-1. General

a. The medical company must be prepared at all times to deploy on short notice to accomplish its mission. This chapter discusses the steps a medical company must take to prepare for deployment from its CONUS location to an overseas TO and how the company will be employed once in the theater.

b. Appendix C discusses operations during a mass casualty situation.

3-2. Mobilization and Deployment

a. When a crisis situation, natural disaster, or a declared war occurs, US Army Forces may be mobilized to respond to the situation. The determination to mobilize military forces is made by the National Command Authorities (NCA) through the DOD. If US Army Forces are tasked to mobilize, the mobilization is managed through US Army Forces Command (FORSCOM) using the Time-Phased Force Deployment List (TPFDL).

b. Mobilization requires extensive and comprehensive planning to ensure that it can be accomplished in an efficient and timely manner. All military units have preexisting plans for use in the event of mobilization. Active Component CHS units maintain a readiness posture which permits them to respond (mobilize) for a short-notice deployment. The CHS commander, therefore, uses the OPLAN as the starting point to prepare his unit for mobilization. Areas to consider when mobilizing include—

(1) *Emergency operations center.* The command establishes an emergency operations center (EOC) at its CONUS location. This element is staffed by key personnel and monitors the unit's progress as it prepares for deployment. The EOC manages and coordinates activities within the unit and with elements of the supporting installation.

(2) *Operations.* Once notified of mobilization, all unit personnel must be contacted (usually by means of an alert roster) and provided initial instructions. These instructions may require recall to the unit area and the cancellation of leaves and temporary duties (TDYs) (except MOS-producing schools). The readiness posture of the unit is monitored and the status reported as required. If applicable, processing for oversea movement/replacement (POM/POR) is monitored. Movement plans are developed and coordinated with transportation authorities for needed support. The unit is prepared for movement to a mobilization site or port of embarkation (POE). Coordination is required for CHS at the mobilization site or POE as organic medical supplies and equipment are loaded and not available for use.

(3) *Security and intelligence.* Information and intelligence data are gathered on the threat (to include the medical threat) in the deployment area, and plans are modified as required. Security activities include, but are not limited to—

- Obtaining individual security clearances.
- Training procedures for the handling, transporting (to include escort duties), and disposing of classified documents.
- Appointing military censors and obtaining necessary equipment to accomplish the mission.
- Conducting OPSEC training, to include Subversion and Espionage Directed Against the US Army (SAEDA).
- Developing the signal security plan, to include—
  - Nature and amount of information to be transmitted or protected.
  - Communications system capabilities and limitations.
  - Selection of available signal security kits and instructions for use.
  - Basic load, source, and manner of obtaining key cards, authentication codes, and other security-related codes and materials.
  - Compromise and supervision monitoring of communications security (COMSEC) material.
  - Operational procedures to include electronic protection and any other special requirements.
- Identifying all intelligence requirements and submitting requests for needed information (to include medical intelligence for the AO).
- Reviewing plans for conducting classified moves (AR 220-10).
- Obtaining necessary maps.
- Briefing the commander and staff on the threat (to include the medical threat) in the AO.
- Restricting movement and communications of unit personnel in secured staging areas, such as telephone usage, control pass procedures, and conducting mission briefs.
- Reviewing signal security requirements and practices.
- Identifying linguistic personnel in the unit.

- Destroying classified documents not accompanying the unit, as applicable.

(4) *Training.* Initial and refresher training can be conducted in the following areas:

- Preventive medicine concerns in the AO include—
  - Field sanitation teams and personal hygiene (FM 21-10 and FM 21-10-1).
  - Endemic and epidemic disease prevalence.
  - Poisonous plants, wild animals, arthropods, and reptiles.
  - Climate and associated environmental concerns.
  - Pest management.
  - Field waste.
- Combat stress control concerns include—
  - Review of stressors associated with deployment and the specific operational scenario.
  - Individual, buddy, and leader coping strategies and techniques.
  - Sleep planning.
  - Home-front issues and family support groups.
  - Recognition and management of BFCs and MCSBs.
- Convoy procedures.
- Air deployment (rigging and loading/unloading).
- Operational and signal security.
- Orientation to deployment area, to include political considerations, customs, beliefs, language, laws, and other related host-nation (HN) topics.
- Military occupational specialty refresher training.

(5) *Logistics.* Logistics support (all classes) is an essential function that requires thorough planning and coordinating to ensure that the support needs of the force are met. Actions required include—

- Ensuring a complete basic load of Class I supplies is obtained, to include water.
- Coordinating (with the support battalion S4) field feeding support for the unit while en route to and at the mobilization site.
- Ensuring all personnel have required individual and organization clothing and equipment.
- Ensuring there are sufficient expendable supplies available and requisitioning or obtaining shortages.
- Developing loading plans.
- Inspecting MESs for completeness and requisitioning or obtaining shortages.
- Coordinating the turn in of any table of distribution and allowances (TDA) equipment prior to deployment, if applicable.
- Determining petroleum, oils, and lubricants (POL) requirements and requisitioning or obtaining shortages.
- Computing unit basic load and submitting requisitions for ammunition requirements.
- Ensuring all equipment listed in the table of organization and equipment (TOE) is on-hand and serviceable.
- Updating the PLL to reflect newly required equipment and requisitioning or obtaining shortages.
- Inspecting all equipment for serviceability, repair, and/or replacement.
- Coordinating for required services, such as finance, legal, transportation, and laundry and bath.
- Inspecting all medical supplies and equipment for expiration dates and serviceability.
- Coordinating for engineer support, if required.

c. When the unit is deployed, the commander is responsible for coordinating with the support battalion S4 for the transportation to move the organic vehicles, personnel, equipment, and supplies to the POE. If the unit personnel are being transported to the AO by the same mode (air, sea, or rail) as the vehicles and equipment, coordination is required to provide essential services for

these personnel while en route to and at the POE. Organic equipment and supplies (such as medical) cannot be used in the staging area, as they are already packed for shipment. Area medical support is required.

d. If the unit personnel are transported separately to the AO, they should arrive a few days prior to the vehicles, equipment, and supplies. This allows them to off load the equipment, supplies, and vehicles and ready them for movement to their AO. Once the unit property is received at the point of entry, it is inspected for damage and off loaded. The unit is assigned an initial off-loading area where it moves its vehicles, military vans (MILVANs), and trailers to. Fuel is available for refueling vehicles. Once supplies and equipment are moved to the off-load area, the unit is responsible for its security. In this area, a thorough inspection of all vehicles, equipment, and supplies is made for damage or loss. Necessary repairs are made or are coordinated for through the support maintenance element. Requisitions for replacement of unusable supplies, equipment, or vehicles (damaged beyond repair) are initiated through the in-theater C^2 element. Loads are reconfigured according to the unit loading plans.

e. Orientation to the AO should include discussions in the following areas:

- Mission update.
- Update on OPLANs and OPORDs.
- Current threat update, to include the medical threat.
- Emergency warning signals.
- Rules of engagement.
- Combat health support issues, to include PVNTMED measures and CSC.
- Available support, to include HN support.
- Supply and resupply procedures and supporting health service logistics element.
- Convoy operations (Appendix J).
- Personnel restrictions, curfews, and pass procedures.
- Status of Forces Agreements, if applicable.
- Security requirements, to include COMSEC.
- Local laws, customs, and religious beliefs.
- Religious support.

- Uniform requirements.
- Vehicle and unit movement requirements.
- Personnel replacements.
- Personnel, morale, and finance support elements.

3-3. Site Selection

a. Site selection is an important factor impacting on the accomplishment of the medical company mission. Improper site selection can result in inefficiency and possibly danger to unit personnel and patients. For example, if there is insufficient space available for ambulances to turnaround, congestion and traffic jams in the MTF AO can result; or, if the area selected does not have proper drainage, heavy rains may cause flooding in the unit and treatment areas.

b. Medical companies are normally established within a base cluster with other corps or division units for security. Although the base cluster provides security, there are certain considerations which influence where within the base cluster the medical company is established. The senior commander within a base cluster is also the base cluster commander and operates the base cluster operations center (BCOC). The medical company coordinates site selection and obtains approval from the BCOC prior to the establishment of the company area. The medical company will be competing with other CSS units for space and location within the base cluster. Many of the factors which influence CHS operations will also apply to CSS units. It is important, therefore, to stress the unique requirements of the medical mission. The BCOC provides guidance on security and briefs the medical company on base cluster operating procedures and locations of supported units and elements. Within the base cluster, the MTF should not be placed near hazardous materials (such as POL and ammunition) or storage areas, motor pools, and waste disposal sites. If possible, the MTF should be established toward the center, rather than on the perimeter of the base cluster.

c. Additional site selection criteria include–

(1) *Commander's plan and mission.* The specifics of the OPLAN, the manner in which it, will be executed, and the unit's assigned mission can affect the selection of a specific site. The requirements for an area which 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.

NOTE

Buildings of opportunity should be inspected by the engineers prior to use as an MTF.

(2) *Routes of evacuation and accessibility*. Ground evacuation is the principal means of evacuation for patients injured in the forward areas. 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 (such as bridgeheads). The site should not be so secluded that incoming ambulances have difficulty locating the MTF.

(3) *Expected areas of patient density*. To ensure the timely delivery of CHS, the clearing station must be located in the general vicinity of the supported forces (or Echelon I facilities supported). 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 is that must be traveled, the longer it takes for the patient to reach the next echelon of care. Further, this time delay reduces the number of ambulances available for clearing the battlefield as a number of ambulances will be in transit to the clearing station at any given time.

(4) *Hardstand, drainage, obstacles, and space.*

- 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 not any areas where water can pool.

- 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.

- 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.

- The space to establish the treatment and administrative areas of the unit is dependent upon the mission, expected duration of the operation, and whether NBC operations are anticipated. The site must be large enough to permit dispersal of the unit elements and expansion should augmentation be required. When fully establishing the site, at least 4 acres of land are required for the treatment and administrative areas exclusive of the helipad and motor pool requirements.

(5) *Communications.* When establishing communications, the selected site must enable communications while minimizing the enemy's ability to intercept and locate transmissions. Refer to the FM 24-Series for communications considerations and procedures.

(6) *Likely enemy targets.* The site must not be closely located to likely enemy targets. These include—

- Ammunition storage facilities or ATPs.
- Petroleum, oils, and lubricants points.
- Motor pools.
- Main supply routes (MSRs) (must be accessible from but not directly next to).
- Bridges.
- River crossing points.
- Strategic towns and cities.
- Industrial complexes or factories.

(7) *Cover and concealment.* 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 contamination in the event of an attack.

(8) *Landing sites (zones).* 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. Additional site selection considerations for a landing site are contained in FM 8-10-4 and FM 8-10-6.

(9) *Perimeter security.* 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 its placement within the base cluster, or if it is solely responsible for its own security. A discussion on perimeter security and the Geneva Conventions is contained in FM 8-10.

(10) *Flow of traffic (patient and vehicles).* In establishing the traffic patterns within the unit area, three significant areas must be addressed.

- 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, and holding areas. 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. The flow of traffic should be in one direction only.

NOTE

Two-way traffic can cause confusion, particularly when loading and unloading patients.

- 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.

(11) *Equipment.* 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 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 this shielding rather than having to rely sole on the use of sandbags.

(12) *Decontamination area.* The site should be large enough to provide an area for patient decontamination (Appendix K). The specific site selected to establish the decontamination station must be downwind of the unit and treatment areas.

(13) *Geneva Conventions adherence.* The Geneva Conventions afford a 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.

3-4. Unit Layout

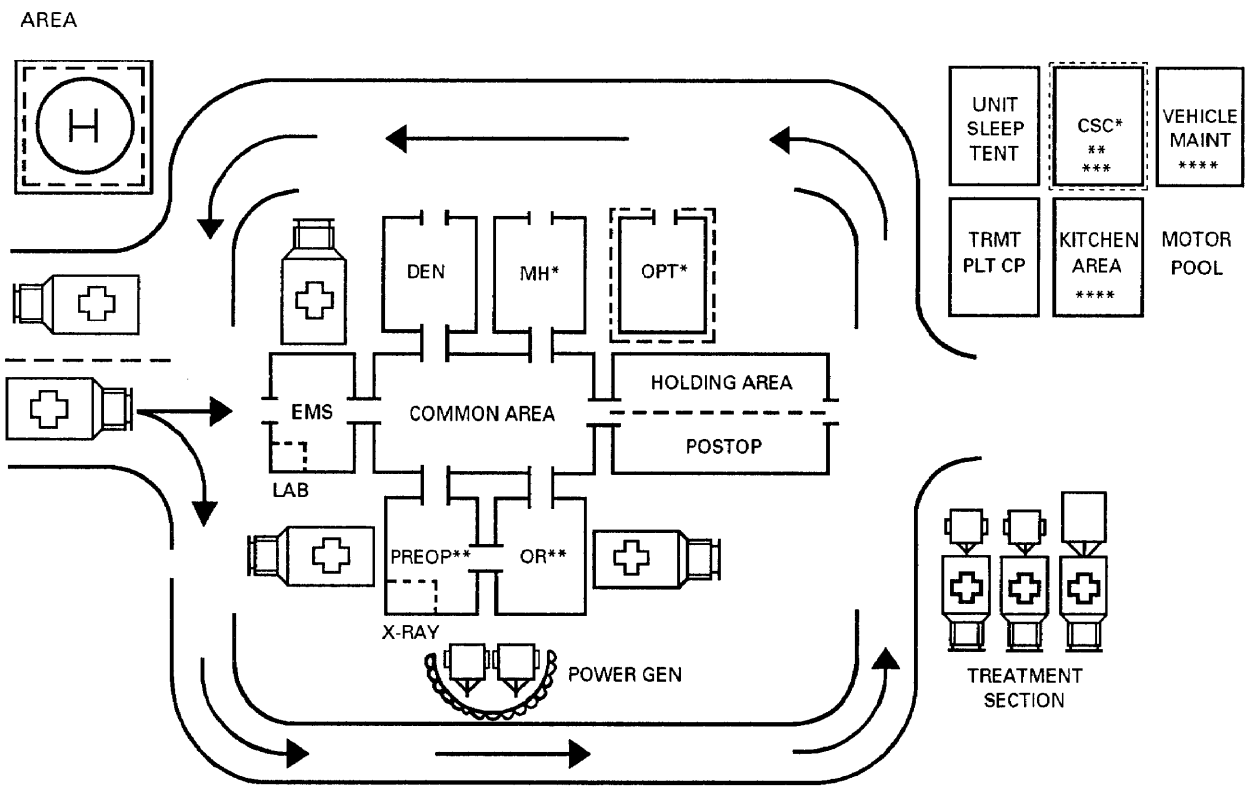
The medical company establishes the clearing station. This facility provides Echelons I and II medical care to supported troops on an area basis.

a. The facility must be laid out in a manner which maximizes patient flow from one element to another within the MTF area. Overlapping internal traffic patterns should be avoided.

b. When establishing the MTF, sufficient space must be allocated to accommodate the possible augmentation of the treatment element. This augmentation may include air and ground

ambulances, surgical detachments, patient-holding elements, CSC elements and/or units, or other specialty teams or elements.

c. A suggested layout for a clearing station with surgical and CSC augmentation is contained in Figure 3-1.



CSC	COMBAT STRESS CONTROL "FATIGUE CENTER"***	OPT	OPTOMETRY SERVICE AREA
DEN	DENTAL CARE AREA	OR	OPERATING ROOM AREA
EMS	EMERGENCY MEDICAL SERVICE AREA	PREOP	PREOPERATIVE CARE AREA
LAB	MEDICAL LABORATORY AREA	POSTOP	POSTOPERATIVE CARE AREA
MH	MENTAL HEALTH	TRMT PLT CP	TREATMENT PLATOON COMMAND POST
		X-RAY	X-RAY AREA

* LOCATED IN THE MSMC CLEARING STATION ONLY
** AUGMENTATION (INCLUDES PERSONNEL AND EQUIPMENT)
*** FATIGUE CENTER IS LOCATED AWAY FROM TREATMENT AREA
**** IF NOT CENTRALIZED AT BATTALION

Figure 3-1. Suggested layout of a clearing station with surgical and combat stress control augmentation.

3-5. Company Command Post Operations

The command post (CP) is the principal facility employed by the medical company commander to C^2 unit CHS operations. It is typically staffed with the commander, executive officer (health services administration assistant / medical operations officer), first sergeant, and other individuals the commander designates (depending on the operation), such as the NBC NCO, communications chief, and clerk-typist.

a. The commander establishes priorities and defines the level of authority within the CP. The extent of operational authority given to members of the CP staff is based on the commander's desires and the staffs experience. The exact operational authority is defined in the TSOP. The commander also establishes procedures which clearly identify those CP activities and functions that must be accomplished on a routine basis to support the operation and those that require command approval. In all situations, the commander will be kept informed.

b. During the course of support operations, the CP receives, analyzes, coordinates, and disseminates information which is critical to successfully accomplish the mission. The tools used in the CP to facilitate C^2 are a journal, a situation map, and an informational display.

- *Journal.* A journal is an official chronological record of events about a unit or a staff section during a given period of time. A journal is prepared and maintained during combat, training exercises, operations other than war (OOTW) (such as disaster relief or humanitarian assistance operations), and as directed by the commander. The journal is maintained on DA Form 1594 (refer to FM 101-5 for additional information and sample journal entries).

- *Situation map.* A situation map is a graphic presentation of the current organizational situation. A general situation map may be supplemented with one or more overlays showing specific items (such as barricades or obstacles). At the company level, one situation map may be used; however, specific functional areas may maintain their own specific situation map (such as medical evacuation with preplanned patient collecting points, AXPs, and forward-sited ambulance assets). Situation maps should be updated per the TSOP with information obtained from higher headquarters and changes in the tactical situation. Situation maps, as a minimum, show–

  - Symbols, as required, to portray the friendly and enemy situation (refer to FM 101-5-1 for information and guidance on the use of symbols).
  - Boundaries and front-line trace applicable to the current operations.
  - Other control measures applicable to the operation (such as phase lines).
  - Location of CPs for adjacent units, supported units, and higher headquarters.
  - Location of supported units.

- Civilian installations, allied military installations, airfields, seaports, and rail networks, as appropriate.

- *Information display.* An information display, automated or manual, may be required to supplement details contained on the situation map or to make information available that is not suitable for posting on the situation map. Information associated with the situation map is located adjacent to it for easy viewing and posting. A typical display is in the form of a chart which reflects information such as task organization, personnel status, supplies and equipment status, organization and strengths (personnel, equipment, and health status) of the unit, and communications status. An information display should follow these guidelines:

  - The commander determines which information will be displayed.
  - The display must readily show the essential information.
  - The display must permit prompt changes.

NOTE

A display that is not up to date is misleading and serves no useful purpose.

c. The CP must be staffed and equipped for 24-hour operations.

3-6. Treatment Platoon Operations

a. The area support section (area support treatment squad and patient-holding squad) of the treatment platoon establishes the clearing station. The clearing station is discussed in detail in paragraph 3-7.

b. The treatment platoon's treatment section consists of treatment squads which can operate for limited periods of time (up to 48 hours) separate from the clearing station operation. These squads can be used to augment the clearing station operation during mass casualty situations. Further, these squads can be used to—

- Provide DS to maneuver unit medical platoons. These treatment squads can be routinely placed under the OPCON of the battalion surgeon to provide this support.

- Reinforce/augment maneuver unit medical platoons in task force (TF) operations, during periods of high patient densities, in areas with a temporary troop concentration (such as marshaling areas), or in mass casualty situations.

- Facilitate the movement of the clearing station from one location to another. A treatment squad can be echeloned forward to establish an MTF at a new location. The echeloning of elements allows the old treatment site to remain operational until the new site is established.
- Regenerate severely attrited BASs.
- Staff designated points in the ambulance shuttle system, as deemed necessary.

3-7. Clearing Station Operations

The term *clearing station* is the generic term used in designating an Echelon II MTF in the BSA, DSA, CSA, and COMMZ and in support of the separate brigades and ACRs. This MTF is operated by the medical company treatment platoon's area support section. In the DSA, in the separate brigade, and in the ACR support area, it is collocated with the MH, dental, and optometry sections. The division clearing station provides both Echelons I and II medical care support to all divisional and nondivisional units without organic medical resources operating within its AO. The DSA clearing station also serves as the backup for the BSA clearing station. The clearing station established by the medical company/troop of the separate brigade/ACR provides Echelons I and II medical care to all units operating in its AO. The clearing station established by the ASMC in the corps and COMMZ provides Echelons I and II medical care on an area basis for units within its AO.

a. Seriously ill or wounded patients arriving at the BSA clearing station are provided medical treatment and stabilized for further evacuation. Patients reporting with minor injuries, BF, and illnesses are treated within the capability of attending medical personnel. These types of patients are either held for continued treatment for up to 72 hours; evacuated to the DSA clearing station for further treatment, evaluation, and disposition; or treated and immediately returned to duty. Other functions of this MTF include–

- Providing consultation and limited clinical laboratory and x-ray diagnostic procedures.
- Recording all patients seen or treated at the MTF.
- Verifying the information contained on the FMCs of all patients evacuated to the facility.
- Monitoring casualties, when necessary, for NBC contamination prior to medical treatment.
- Ensuring that decontamination of NBC-contaminated patients is accomplished.

NOTE

Patient decontamination is performed by eight nonmedical personnel designated by the echelon commander and supervised by medical personnel. (For additional information, refer to Appendix K and FM 8-10-7.)

b. Evacuation from the clearing station is performed by ground and air ambulances from the corps medical evacuation battalion.

c. Ammunition and individual weapons belonging to patients to be evacuated further to the rear are collected by clearing station personnel and returned to the S4 of the supported brigade or as directed by the TSOP. Patients who are being held at the holding facility but expected to RTD within the 72 hours may retain their weapons or such equipment can be given to the unit armorer for safekeeping pending the patient's final disposition. Patients traveling to the division rear for routine medical consultation will retain their individual weapons and equipment as they will RTD from that echelon.

d. A discussion of site selection criteria for the unit layout and establishment of the clearing station is presented in paragraphs 3-3 and 3-4.

3-8. Ambulance Platoon Operations

Ambulance platoon operations are an essential link in clearing the battlefield of the wounded, thus enabling the tactical commander to exercise control over the tactical situation.

a. Administratively, it is important that ambulance drivers are well briefed on the tactical situation in the area in which they will be providing medical evacuation support. A thorough route reconnaissance must be accomplished and strip maps developed before ambulance crews begin medical evacuation operations. During the planning process and continuously once the operation has begun, the ambulance platoon leader and the medical company/troop commander must prepare casualty estimates for the tactical operation to ensure there is sufficient CHS coverage for the operation. The medical evacuation plan should include an overlay depicting (at a minimum) the location of supported units, patient collecting points, Echelon I facilities, and AXPs. The platoon leader should also obtain both the CSS and operations overlays for the tactical operation. These overlays provide valuable information, such as the location of mine fields, obstacles and barriers, artillery target reference points, and air corridors. This information is essential to enhance the survivability of the ambulance crews by decreasing incidents of fratricide and enhancing mobility of the evacuation assets. The ambulance platoon leader and platoon sergeant must be proficient at map reading, terrain analysis, communications, and reading operational graphics (FM 101-5-1) in order to successfully accomplish the medical evacuation mission. The ambulance platoon leader establishes his location so that he can best control the medical evacuation operation. His location will vary with each tactical operation and can include-

- Combat trains.
- Patient collecting points.
- Ambulance exchange points.
- Relay points or other locations along the ambulance shuttle system.

- Medical company / troop area.
- Central location behind supported units.

b. One of the keys to successfully accomplishing the medical evacuation mission is communications and control. It is essential that communications be effected and maintained between the supported units, the ambulance assets, the ambulance platoon leadership, and the supporting corps evacuation elements. This can be accomplished in a number of ways. Division ambulances are equipped with radios which can be used to pass medical evacuation request information and instructions. Supporting corps ambulances, however, may not be radio-equipped. Medical evacuation information must, therefore, be passed through medical channels by returning ambulances crews, and information is then relayed back through the ambulance crews returning to the forward areas. The ambulance platoon TSOP must also include procedures concerning how to conduct evacuation operations during periods of radio silence. In order for the ambulance platoon leader to ensure his assets are being efficiently employed, he must stay abreast of the tactical situation, the tempo of the battle, and the areas of patient density.

c. There are a number of employment options available to the medical commander to ensure there is timely and efficient medical evacuation coverage for the units supported and that contact is maintained with these units.

(1) *Forward siting of ambulance assets.* The medical company / troop ambulances can be forward sited with Echelon I facilities. This provides immediate and responsive support to those facilities.

(2) *Use of the ambulance shuttle system..* The ambulance shuttle system is an effective and flexible method of employing ambulances during combat. It consists of one or more ambulance loading points, relay points, and when necessary, ambulance control points, all echeloned forward from the principal group of ambulances, the company location, or basic relay points as tactically required. The various points within the ambulance shuttle may or may not be manned. If they are manned, the echelon of care designating the point irresponsible for providing that support. A detailed discussion of the employment of the ambulance shuttle system and its various components is contained in FM 8-10-6.

(3) *Patient collecting points.* Patient collecting points are established along routes where it is anticipated that wounded soldiers traveling to the rear would naturally follow (lines of patient drift). These points can be established in areas such as where terrain canalizes traffic or locations near or adjacent to improved roads. In addition to ambulance assets, treatment assets may also be collocated. These points may or may not be staffed with EMT and medical evacuation personnel. As with the ambulance shuttle system, the echelon of care designating the point is responsible for its staffing.

(4) *Ambulance exchange points.* Ambulance exchange points should be located where they can best provide the required support. Ambulance exchange points are a place on the ground where a patient is transferred from one evacuation platform to another (such as litter to vehicle; tracked vehicle to wheeled vehicle; ground vehicle to air ambulance) en route to an MTF. Their use

is extremely important when a tracked vehicle is evacuating patients. As tracked vehicles are slower than wheeled vehicle, AXPs should be established as close as possible to the supported units to reduce the time and distance requirements for the tracked vehicles. The AXP may be an established point in an ambulance shuttle, or it may be designated independently.

(a) These points may be staffed or unstaffed. Points which are not staffed may serve as rendezvous points for the rapid transfer of a patient from one transportation mode to another. In most cases, these points will not be staffed. An AXP is a predetermined point which may be activated for such events as the passing of phase lines and/or for specific time periods. Ambulance exchange points are moved frequently to reduce their signature and enhance the survivability of the ambulance assets.

(b) An AXP may serve from three battalions (FSMC); three brigades (reinforcing mission) (MSMC); or a specific number of nondivisional Echelon I facilities (ASMC); therefore, if possible, the AXP should be centrally located to reduce ambulance turnaround and enhance the timely execution of the medical evacuation mission. This may not, however, always be possible due to terrain or other factors. The distance from the supported Echelon I facilities is also dependent upon the terrain, the tactical situation, the type of vehicles being operated (wheeled versus tracked), and the type of operation being conducted (offense, defense, or retrograde). Additionally, the medical company/troop has an area support mission within the BSA, DSA, or CSA. All ambulance assets cannot be forward sited to units in contact as sufficient assets must remain in the support area to accomplish the area support mission.

3-9. Communications

a. The success of CHS operations is dependent upon the commanders ability to communicate with his deployed elements, higher headquarters, and supporting and supported units. The medical treatment, evacuation, and health service logistics elements of the company are routinely required to establish and maintain communications with supported and supporting units. The medical company is deployed by its parent unit: the support battalion, support squadron, or ASMB. Operationally, the medical company is often required to communicate with elements at echelons above its parent headquarters (particularly in 00TW) to provide information and to coordinate CHS over long distances. It is necessary that the company's communications assets have a long-range capability and be redundant.

b. The commander must communicate to control his subordinate elements, to pass information, and to coordinate CHS. He ensures that required communications are available and functioning.

(1) The commander analyzes each situation to determine the effects the METT-T factors may have on his ability to communicate. He reduces the adverse effects by—

- Proper positioning of elements,
- Establishing visual signals for critical events (such as using pyrotechnics to mark a position).

- Requesting a relay site be established by the battalion/squadron.
- Other similar measures.

(2) Signal planning enables the commander to reduce the adverse effects of METT-T and to enhance the advantages presented (such as reducing the unit's electronic signature through using available terrain features). The signal plan should be comprehensive yet simple in its execution, even during times of radio silence or during the absence of communications capability.

(3) There are several means of communications available to the commander. He should use them to compliment each other. They are—

(a) Radio. This is probably the most common means of communications. Radios are well suited for deployed medical elements and those moving from one position to another. The company command net is the C^2 net for the unit. The medical company employs Single Channel Ground and Airborne Radio System (SINCGARS) radios equipped with a KY-57 tactical wideband COMSEC device for secure communications and an improved high frequency radio (IHFR) (amplitude modulated [AM]) for long-range communications. These radios allow the commander to operate in the battalion command net, his company's command net, the DMOC, or the supporting medical group medical operations net. A detailed discussion and illustration of radio nets is provided in Appendix L. When planning radio communications, the commander considers the following factors:

- Constant radio contact is not essential for all operations. Often due to terrain, radio limitation, and type of operation, radio contact will be lost. At other times, signal security will require radio listening silence be imposed. The commander must determine when and where communications will be critical during the operation and then ensure the required capability is available.

- He must plan for the location and movement of the company's treatment and evacuation elements to ensure he knows when the terrain may disrupt radio communication. The key lies in maintaining line-of-site within the planning ranges of his radios. These ranges can be extended two to three times through the use of field expedient antennas (refer to FM 24-18 and FM 24-19). When required, the commander may establish or request his battalion to setup a relay site.

- He must ensure that all leaders know what to do in the event radio communications are lost. Redundant communications is provided through the AM medical operations net for communications with higher headquarters.

(b) Wire and mobile subscriber equipment. Wire and mobile subscriber equipment (MSE) usually provides better communications because the systems are not subject to interference from weather, terrain, and man-made obstacles. They are less subject to enemy electronic warfare (EW) action, such as jamming and direction finding. They are, however, subject to breakage by direct and indirect fire and ground traffic.

(c) Visual signal. The company commander may use visual signals such as panels and pyrotechnics to identify friendly positions and helicopter landing sites. Pyrotechnic signals may be prescribed by signal operating instructions (SOI), the TSOP, or the OPORD.

(d) Sound. Sound signals, such as whistles, sirens, and gongs, may be used as prearranged signals (for example, to spread the alarm to warn of an enemy ground attack).

(e) *Messenger.* Aside from personal contact, messengers are the most secure and reliable communications means. Messengers are ideal for transmitting lengthy written messages. Their speed depends on the mode of travel, the tactical situation, and terrain. They are vulnerable, however, to enemy action in the forward areas, and they lack sender-to-receiver contact. Hard-copy messages are preferred over oral messages. If an oral message is sent, have the messenger repeat the message to ensure he understood it. In medical units, ambulance personnel may be used as messengers, delivering information and requesting resupply from forward deployed medical elements.

(4) Communications nets for medical companies are illustrated in Appendix L.

c. The medical company employs the following communications equipment, tactical computer equipment, and position location/navigation (POS/NAV) devices:

(1) Combat net radio equipment includes both the IHFR AM system and the SINCGARS. These systems serve as the primary means for voice transmission of C^2 information and as a secondary means for data transmission. Data transmission is required when data transfer requirements cannot be made by the MSE system. The IHFR series and the AM radios provide mid-to-far range communications capabilities. They interface with other AM high frequency radios which are antijamming, provide secure voice and data capability, and have push-button frequency selection. The SINCGARS series and FM radios use a 16-element keypad for push-button tuning which allows for simple and quick operation. They are capable of short-range operation for voice or digital data communications. Also, they are capable of single-channel operation for interface with the AN/VRC-12 series or other FM radios. In addition, they can operate in a jam-resistant, frequency-hopping mode, which can be changed as needed. A discussion of radios and associated equipment allocated to the medical company under current operational facility (OPFAC) rules is provided in Appendix L.

(2) Mobile subscriber equipment is the area common user system (ACUS) within the corps and divisions. It is the backbone of the corps communications system and is deployed from the corps rear boundary forward to the maneuver, battalion's main CP. It provides a secure mobile, survivable communications system capable of passing voice, data, and facsimile (FAX) throughout the corps. Further, it provides a direct interface with echelons above corps (EAC), other services, NATO, and combat net radio (CNR) and commercial communications systems. This ACUS is composed of multiple communications nodes with network features which will automatically bypass and reroute communications around damaged or jammed nodes. This system integrates the functions of transmission, switching, control, and terminal equipment (voice and data) into one system and provides the user with a switched telecommunications system extended by mobile radiotelephones. A discussion of this equipment is provided in Appendix L.

(3) Tactical computers are employed by MSMCs and medical companies/troops of support battalions/squadrons of separate brigades and ACRs. A discussion of computer hardware equipment is provided in Appendix L.

(4) Under the OPFAC rule, medical companies are allocated precision lightweight global positioning system (GPS) receivers (PLGRs). This GPS receiver device is designed for individual and vehicle use. When the system becomes available for distribution, it will be particularly employed by ambulance and treatment squads/teams. The POS/NAV device is not necessarily communications equipment but is primarily discussed under the communications title as a matter of convenience and continuity. A discussion on the PLGR device is provided in Appendix L.

3-10. Rear Operations

a. Rear operations are actions, including area damage control, taken by units, singly or in a concerted effort, to secure and sustain the force, neutralize or defeat enemy operations in the rear area, and ensure freedom of action in deep and close operations.

b. Combat health support units are established within base clusters to afford them the protection offered by the other combat, CS, and CSS forces. Combat health support units are limited by the provisions of the Geneva Conventions in responding to enemy action. (Refer to Appendix A and FM 8-10 for additional information on self-defense and the defense of patients.)

c. Medical units must be prepared to respond to mass casualty situations (Appendix C) that may arise in the rear area. Thorough planning, effective communications and training and rehearsal of these types of operations are required if they are to be successfully executed.

CHAPTER 4

SUPPORT TO TACTICAL OPERATIONS

Section I. INTRODUCTION

4-1. General

a. Current combat operations doctrine enlarges the battlefield, stressing unified air and ground operations throughout the TO. It recognizes elements of combat power, including maneuver which has the same importance as fire power. It acknowledges the importance of NBC and DE weapons/devices and EW and their effects on combat operations.

b. Operations will be conducted across the operational continuum and in differing environments. The timely and efficient delivery of health care on the battlefield is governed by the METT-T factors, as well as CHS considerations.

c. Support to light/heavy and heavy/flight force mixes is discussed in Section V.

4-2. Combat Health Support Considerations and the Mission, Enemy, Terrain, Troops and Time Available Factors

All military operations are influenced by the METT-T factors. These factors form the basis of the commander's estimate and plan and have a significant impact on CHS operations. (The CHS estimate and plan are discussed in Appendix B).

a. The CHS mission is dictated by the tactical commander's intent, overall concept of the operation, and the OPLAN. Combat health support operations must be closely synchronized with the tactical operations to ensure that sufficient resources are allocated at the proper place and time on the battlefield. If NBC operations are planned, considerations for the decontamination of patients must also be included (FM 8-10-7).

b. The capabilities of the enemy to inflict casualties and the type of operation to be conducted (offensive, defensive, or retrograde) significantly influence the numbers and placement of casualties that will be generated on the battlefield. Further, if large numbers of EPW are anticipated, an increased burden may be placed on the CHS system to treat EPW patients.

c. The terrain (to include weather) on which the operation will be conducted—

- Influences the placement of CHS assets.
- Dictates requirements for specialized clothing and equipment (such as in extreme cold weather or mountain operations).
- Affects maintenance requirements for ground ambulances, air ambulances, and other vehicles and equipment (such as in a desert environment).

- Influences the expected lines of patient drift (most likely routes injured or wounded soldiers will follow to reach medical assistance).
- Affects the areas of anticipated patient densities (such as in valleys or along river banks).
- Influences evacuation times and routes.
- Affects the types of anticipated injuries (such as more crush injuries, fractures, and sprains are encountered on mountainous terrain; more skin conditions [rashes, immersion syndrome, and infections] occur in a jungle environment).

d. The overall health of the command, the use and enforcement of PVNTMED measures, the integration of CSC principles, and other CHS factors and initiatives influence the effectiveness of the combat soldier to perform his mission. Without adequate CHS, troop health and morale will decrease resulting in an increase of the combat ineffectiveness level in supported units.

e. On the battlefield, time takes on an added significance when applied to CHS operations. It is essential to minimize the time between wounding and treatment and evacuation. As the time element increases before the casualty is treated, his prognosis for a favorable recovery decreases. Time is also important once the patient has been initially treated and requires further treatment at a higher echelon of care. If evacuation time is lengthy due to the tactical situation or the nonavailability of evacuation assets, complications may arise which further adversely effect the prognosis.

4-3. Generation of casualties

a. The numbers and types of casualties generated in an operation will vary depending upon such factors as the—

- Weapons employed and their relative fire power.
- Size and experience of the opposing force.
- Degree of risk of the operation.
- Type of terrain and the advantages and/or disadvantages it provides.
- Type of climate.
- Health of the command (troops) (to include immunizations and chemical prophylaxis).
- Type of environment (NBC or DE).

- Prevalence of endemic and epidemic diseases in the AO.

b. For information on estimating the number of casualties for a specific type of operation, refer to FM 8-55.

Section II. OFFENSIVE OPERATIONS

4-4. General

Combat health support in offensive operations strives to quickly clear the battlefield for the tactical commander, thus enabling him to fully exploit opportunities as they occur in battle. Combat health support resources must be positioned throughout the battlefield in such a manner that they may be swiftly relocated depending on changes in the tactical environment.

4-5. Characteristics of Offensive Operations

An offensive operation is conducted to destroy or bring under control the forces or areas critical to the enemy's overall defensive organization. Offensive operations are characterized by aggressive initiative on the part of tactical commanders, by rapid shifts in the main effort to take advantage of opportunities, by momentum, and by the deepest and most rapid destruction of enemy defenses possible.

4-6. Types of Attacks

There are two basic types of attack. These are the hasty attack and the deliberate attack.

a. The hasty attack is conducted either as a result of a meeting engagement, or when bypass has not been authorized and the enemy force is in a vulnerable (unprepared or unawares) position. Hasty attacks are initiated and controlled with fragmentary orders (FRAGOs).

b. Deliberate attacks differ from hasty attacks; they entail comprehensive planning based on detailed information, thorough preparation, and rehearsals. Deliberate attacks normally include large volumes of supporting fires, main and supporting attacks, and deceptive measures.

c. Combat health support is provided to hasty and deliberate attacks based on the forms of maneuver which will characterize the operation.

4-7. Combat Health Support to Offensive Operations

a. The following are essential characteristics of CHS in the offense:

(1) As areas of casualty density move forward, the routes of evacuation lengthen, resulting in the forward displacement of MTFs and medical evacuation assets.

(2) The heaviest patient work loads occur during disruption of enemy main defenses, at terrain or tactical barriers, and during assaults on final objectives.

(3) The major casualty area of the division is the zone of the main attack. As the attack accomplishes the primary division objective, it receives first priority in the allocation of combat power and related CS and CSS. The division commander's allocation of forces indicates roughly the areas which are likely to have the greatest casualty density. The surgeon allocates his CHS resources accordingly.

(4) Echelon II CHS elements may be required to furnish temporary EMT to refugees, displaced persons, and indigenous civilians. This care is only given if it does not adversely impact on providing CHS to US Forces. Care is provided as a humanitarian act and to prevent interference with tactical operations. The extent of the support is determined by the tactical commander; however, assistance is normally confined to EMT and ATM. These patients are transferred to civilian facilities as soon as their medical conditions and the tactical situation allows.

(5) If high numbers of refugees are anticipated, PVNTMED resources may require augmentation or reinforcement to support any temporary camps or holding areas where responsibility has been accepted by US Forces. Coordination with supporting civil affairs elements is required as early in the planning process as possible.

(6) As with refugees and other indigenous civilians, some EPW will require EMT or ATM. The care and treatment to be afforded to EPW is governed by the Geneva Conventions (Appendix A). Accurate forecasting of the expected number of EPW is required for the surgeon to determine CHS requirements and allocate his resources accordingly. Field Manual 8-55 provides planning guidance for estimating the CHS requirements for EPW patients.

NOTE

Historically, the number of EPW has been underestimated and caution should, therefore, be used when estimating requirements. Underestimating requirements may result in a degradation of CHS for US Forces.

(7) Combat health support elements are not kept in reserve. Although reserve forces are one of the keys to offensive operations, the CHS elements supporting these units are performing

their daily CHS mission and are not considered to be reserve forces. When the reserves are committed, these CHS elements deploy with them.

b. Initially, all division MTFs are located as far forward as combat operations permit. This technique allows maximum use of these facilities at the initial location, thus enhancing the overall effectiveness of support.

c. Echelon II medical care is provided on an area support basis. Elements of division CHS assets may be attached or placed under the OPCON of a specific brigade when that brigade—

- Is assigned an independent mission.
- Undertakes an operation likely to disperse its elements over unusually great distances.

d. The forward movement of the division offsets, to a degree, the inherent difficulties for providing CHS based on patient work load. The work load is usually heaviest during offensive operations. As advancing combat formations extend control over the battle area, supporting CHS elements overtake patients. This facilitates the acquisition of the wounded and reduces the time elapsed between wounding and treatment.

e. Two problems experienced in providing CHS during offensive operations are–

- *Contact with supported unit.* Contact with the supported unit must be continuous. The responsibility for maintaining contact falls to the higher CHS echelon (rear to front). Contact is maintained through medical evacuation elements operating within and between echelons of CHS.
- *Mobility.* The evacuation assets and treatment elements must have the same or greater mobility than the supported unit. If the CHS assets are not sufficiently mobile, they will not be able to remain in contact with the supported tactical elements.

f. Medical evacuation support in offensive operations is dependent upon the tempo of the battle, the placement of treatment elements on the battlefield, the availability and mobility of evacuation assets, and the terrain and weather.

- Techniques which can be used during offensive operations are–
  - Establishing patient collecting points which concentrate patients awaiting evacuation along primary and secondary evacuation routes.
  - Designating AXPs where the patient can be transferred from one evacuation platform to another (such as from a tracked to a wheeled ambulance).

NOTE

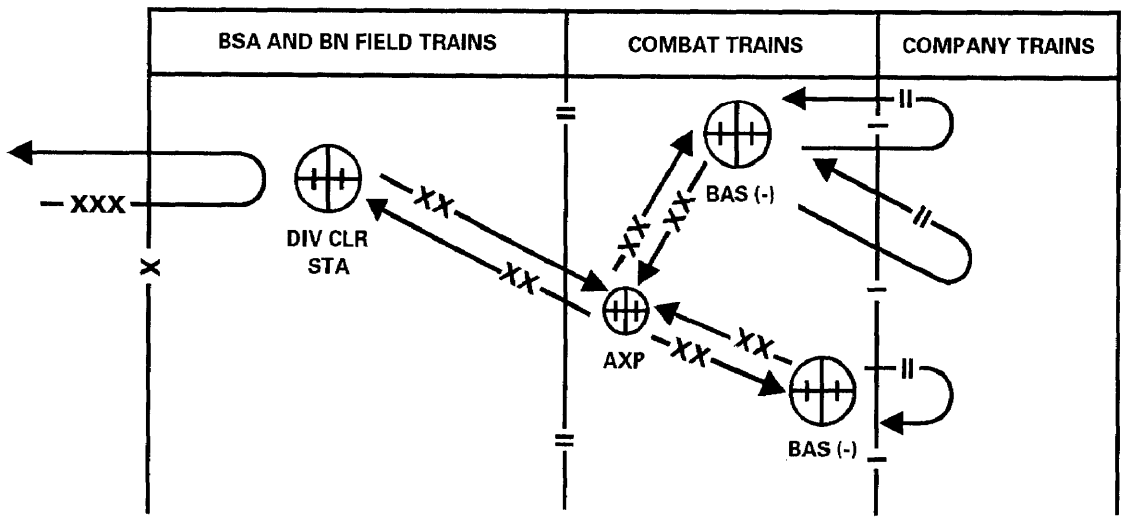
Patient collecting points and AXPs are designated by the echelon responsible for evacuating the patients. These points may be manned or unmanned. Manning of these points is the responsibility of the echelon establishing the points.

- Establishing an ambulance shuttle system (Figure 4-1) decreases ambulance turnaround time and keeps drivers familiar with the battle area in the forward areas. (An in-depth discussion of the ambulance shuttle system is contained in FM 8-10-6.)

- Evacuation overlays (Figure 4-2) should be prepared to depict the location of patient collecting points and AXPs. If certain points are activated by the crossing of phase lines, the phase lines should also be shown.

- The designation and location of patient collecting points and AXPs can be published in the service support paragraph of the brigade OPORD or depicted on overlays.

- For additional information on medical evacuation, refer to FM 8-10-6.



XXX	CORPS AMBULANCES
XX	DIV AMBULANCES
II	BN AMBULANCES
AXP	AMBULANCES EXCHANGE POINT
BAS (-)	BATTALION AID STATION OPERARTING IN SPLIT TEAM MODE

Figure 4-1. Ambulance shuttle system.

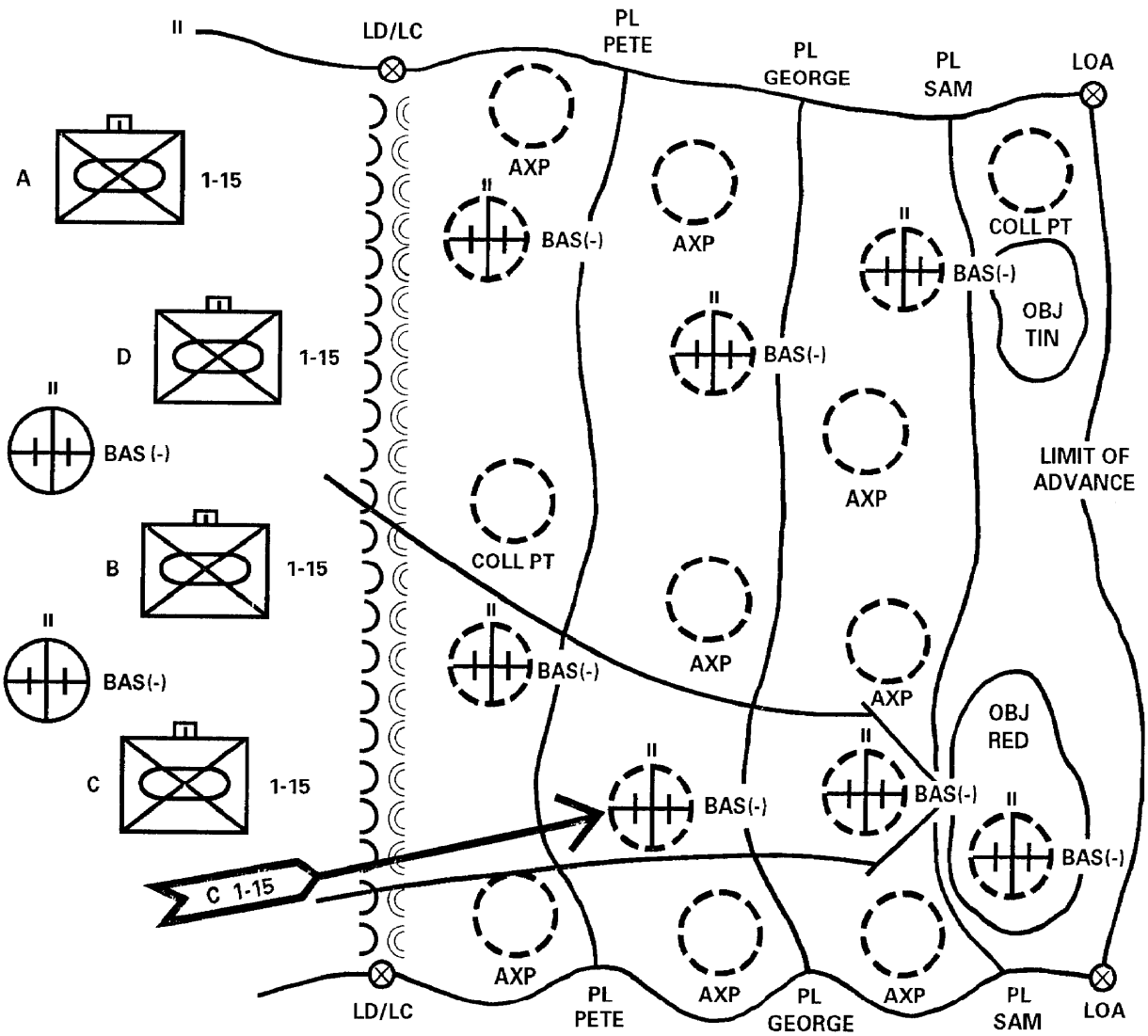


Figure 4-2. Sample of an evacuation overlay.

g. Depending on the tempo of the battle, it may not be feasible to establish an entire clearing station. In fluid situations, medical care may be provided directly from the treatment vehicle, under cover of natural terrain features (such as defilade, caves, or rock overhangs), or under a minimal number of shelters. Forward-sited medical companies may be required to rapidly evacuate patients without holding potential 72 hour RTD soldiers in the DSA. Close coordination between the BSA clearing stations and the DSA clearing station must be effected to ensure that DSA clearing station is not overwhelmed with patients and can receive reinforcement or augmentation as required.

4-8. Movement to Contact

a. Combat health support units or elements are deployed according to the OPLAN. Prior deployment of medical resources with parent and supported units permits uninterrupted and effective CHS of advancing forces.

b. If a covering force is deployed, the level of command for the covering force (corps or division) is responsible for providing CHS. For example, in a corps covering force, the corps CHS structure has the responsibility for establishing and operating the medical evacuation system to support the forward deployed corps forces. This is done to prevent the divisions following the covering forces from becoming overloaded with patients prior to the handoff and passage of lines. Due to the violent nature of covering force battles, prior planning is essential to ensure that continuous CHS is provided to the force. As the battle develops, distances to MTFs will lengthen and mass casualty situations (Appendix C) may occur. These factors may necessitate the use of nonmedical transportation assets to move casualties rearward.

c. Advance, flank, and rear guards receive CHS from attached medical evacuation teams who provide EMT and evacuate patients to patient collecting points or the nearest MTF providing area support. If the tactical situation permits, air ambulances can provide a measure of agility and flexibility.

d. The passage of lines or relief in place requires extensive liaison with the CHS elements involved, and it is essential to ensure continuous CHS. In a passage of lines, the participating surgeons arrange for the unit in place to accept the patients of the attacking unit. This enables the medical treatment elements of the attacking force to maintain mobility and to locate farther forward. Medical elements relieved in place provide the relieving element information about—

- Radio frequencies and call signs.
- Tactical standing operating procedures.
- Location of or potential sites for MTFs.
- Lines of patient drift.
- Location of patient collecting points and AXPs (overlays and strip maps).

- Main supply routes.
- Major terrain features or obstacles.
- Forward arming and refueling points (FARPs).
- Army airspace command and control (A^2C^2).

e. A movement to contact often results in a meeting engagement. Meeting engagements frequently occur by chance with smaller units and by ineffective reconnaissance for brigade-size or larger units. Meeting engagements may also occur when each opponent is aware of the other and both decide to attack without delay to obtain positional advantage, gain a decisive terrain feature, or assert moral dominance. One other situation in which a meeting engagement may occur is when one opponent deploys hastily for defense and the other opponent attempts to prevent it. As the tactical commander must seize the initiative early, develop the situation, initiate maneuver, and attack violently and resolutely, the CHS system must be prepared to rapidly clear the battlefield of casualties. The mobility of forward treatment elements cannot be compromised; therefore, treatment is limited only to procedures required to stabilize the patient for further evacuation. The CHS plan must be sufficiently flexible to support the main attack which may come from any direction. Evacuation must be swift and patients will not be held in the forward deployed division clearing stations.

4-9. Penetration

a. In the penetration, the attack passes through the enemy's principal defensive positions, ruptures them completely, and neutralizes or destroys the enemy forces. This maneuver facilitates further offensive operations.

b. Of all the offensive maneuvers, the penetration produces the heaviest WIA medical work load. Battle fatigue casualties are relatively low compared to WIA as long as forward momentum is maintained, but increase if the attack is subjected to heavy enemy fires, becomes stalled, or is repulsed. Patient collection starts slowly but increases as the attack progresses, while medical evacuation routes lengthen. The penetration maneuver is preceded by heavy preparatory fires which may result in heavy return fire by the enemy. During artillery preparation, MTFs and evacuation assets may not be able to be positioned far forward. Ground evacuation may be slow and difficult due to the damage to the roads and buildings and to heavy combat conditions. The use of air ambulances expedites the movement of patients if the tactical situation and air superiority permit their use.

c. Combat health support planners must limit the size of the established clearing stations, even though patient work loads are heavy. The treatment elements must remain mobile as the penetration may quickly transition to an exploitation and pursuit.

d. When combat units remain near the point of original penetration to hold or widen the gap in enemy defenses, the delivery of CHS becomes more difficult. Combat health support elements

must be located on each flank since evacuation cannot be accomplished across avenues of heavy combat traffic. The CHS elements should remain clear of the neck and shoulders of the penetration for their own and their patients protection. The breach in the enemy's defensive position is also a prime target of enemy conventional and NBC munitions strikes. Every effort must be made to maintain the mobility of the forward clearing station by the early evacuation of patients to the DSA clearing station or corps hospitals. The clearing station must remain mobile so that it can continue to support the combat units when they transition from the penetration into a pursuit maneuver.

4-10. Envelopment and Turning Movement

a. In an envelopment, the main attack passes around or over the enemy's principal defensive positions to seize objectives on his flanks or rear. This maneuver cuts the enemy's escape routes and subjects him to destruction.

(1) Since this maneuver involves no direct breach of the enemy's principal defensive positions, the CHS elements are not faced with as heavy a WIA patient work load in the opening phases of the operation. Battle fatigue casualties are usually low in proportion to WIA patients. As rapid movement and light combat are expected early-on in the operation, CHS tactics and techniques used in the movement to contact also apply here. Ambulances are positioned forward to rapidly evacuate patients generated by the contact without hampering the tactical commander's ability to maneuver. Echelons I and II treatment elements overtake patients on the battlefield, acquire them, and provide initial treatment and evacuation. If medical evacuation routes are open, patients are quickly evacuated to the corps.

(2) Medical treatment facility commanders maintain contact with the tactical situation through command channels, the medical operations net, and reports from returning ambulance personnel. The CHS plan maintains flexibility and is adjusted to provide adequate support to the combat forces. For example, the commander may designate the location of additional patient collecting points and AXPs, based on phase lines. He will determine the size of the clearing station to be established and its location. When patients must be carried forward, halts at assembly areas and phase lines should be made to coordinate the evacuation of these patients by either ground or air ambulance.

(3) Routine medical supply, resupply, and maintenance procedures may be modified to use air ambulances to—

- Move medical supplies forward.
- Evacuate damaged medical equipment over extended distances.
- Circumvent unsecured ground routes.

(4) Medical units supporting an envelopment must not be immobilized by EPW or nonmilitary patient work loads. If heavy patient work loads are anticipated for patients in this

category, augmentation and reinforcement of CHS elements should be coordinated prior to the operation.

(5) When the maneuver includes vertical envelopment by an air mobile force, the organic medical elements accompany the force. Anticipated delays in linkup may require commitment of additional treatment and holding facilities to the force. In airborne operations, medical evacuation is normally provided by USAF aircraft until linkup has been achieved.

b. The turning movement is a variant to the envelopment in which the attacker attempts to avoid the defense entirely, instead seeking to secure key terrain deep in the enemy's rear and along his lines of communications (LOCs). Faced with a major threat to his rear, the enemy is thus "turned" out of his defensive positions and forced to attack rearward at a disadvantage.

- General MacArthur's invasion at Inchon during the Korean War is an example of a classic turning movement. Casualties were initially light as the main defenses were avoided; however, as the invasion developed, resistance stiffened and higher casualty rates were experienced. Further, as fighting occurred in a populated area (Seoul), significant civilian casualties resulted. The lack of Korean health care providers caused many of these civilians to seek medical aid from US field medical units.

- Combat health support to the turning movement is provided basically in the same manner as to the envelopment. As the operation is conducted in the enemy's rear area, LOCs and evacuation routes may be unsecured, resulting in delays in resupply and evacuation. In the Inchon example, a hospital ship was located off the coast to accept patients evacuated from the fighting. However, due to the precarious tides, evacuation and resupply were often delayed for hours and sometimes days since the harbor could not be navigated by small vessels. It was not until Kimpo Airfield fell that timely evacuation could occur. The deployed CHS units must be able to quickly clear the battlefield of casualties, evacuate them from the forward areas, and sustain the patients in rear areas until evacuation routes are established.

4-11. Exploitation and Pursuit

a. Exploitation is the follow-up of gains to take full advantage of success in battle. It destroys the enemy's ability to regenerate an organized defense, or to successfully withdraw. Pursuit may follow exploitation; it differs from exploitation in that its primary function is to complete the destruction of the disengaging enemy force. Both WIA patients and BFCs are relatively low in this type of operation.

b. Because combat forces involved in exploitation and pursuit employ many of the same tactics as in the envelopment, CHS is provided as discussed in paragraph 4-10.

c. Control of required division-level CHS is decentralized at brigade level in these types of actions. Unsecured ground routes force reliance on evacuation by intermittent g-round ambulance convoys or air ambulances. Since exploitation and pursuit are not normally planned in detail, the

CHS plan and the TSOP must be flexible; improvisation may be required to ensure continuity of medical care.

Section III. DEFENSIVE OPERATIONS

4-12. General

Each defensive operation is unique in its own specifics; however, defensive operations can be subdivided into two main types. The mobile defense employs a combination of offensive, defensive, and delaying actions to defeat the enemy attack. The area defense is usually conducted to deny the enemy access to specific terrain for a specified time. An in-depth discussion of the different categories of defensive operations is contained in FM 100-5.

4-13. Combat Health Support of Defensive Operations

Defensive maneuvers include the spectrum of activities from an absolute static defense (strong points) designed exclusively to retain terrain, to the wholly dynamic defense that focuses only on the enemy. The defense and enemy offensive capabilities influence the character of the patient workload and its time and space distribution which, in turn, determine the allocation of CHS assets.

a. Combat health support of defensive operations presents challenges for CHS personnel, Patient work loads reflect a lower casualty rate, but forward area acquisition of patients is complicated by enemy action and the fact that the initial direction of the maneuver is to the rear. Medical personnel are permitted much less time to reach the patient, complete the necessary EMT, and evacuate him from the battle site.

b. Heaviest patient work loads may be expected during the initial enemy attack and in the counterattack. The enemy attack may disrupt ground and air communications routes and delay evacuation of patients to and from BASs.

c. While WIA rates are usually relatively low in defensive operations as compared to offensive operations, the BFC rate will be higher in relation to the number of WIA. This is particularly true in an area defense characterized by a static element, heavy bombardment of the defensive forces, or adverse weather conditions when adequate shelter is not available.

d. Since combat forces held in the reserve play a decisive role in the defense, location of MTFs must not complicate or interfere with their maneuver. Echelon II medical units may be withheld from on-going operations to support the combat reserve. These medical elements are not, in themselves, held in reserve as they provide CHS on an area basis until required to deploy.

e. The depth and dispersion of the mobile defense creates significant time and distance problems in patient evacuation support to the covering forces. Covering forces may be required to withdraw while carrying their remaining patients to the rear. The use of air ambulances will expedite evacuation of the these patients if the tactical situation permits.

f. The probability of initial enemy penetration may dictate establishing MTFs farther to the rear than in the offense.

4-14. Combat Health Support to Covering Forces in Defensive Operations

The division covering force must have the combat power to adequately screen the FLOT and force the early deployment of the enemy's main force.

a. Organic CHS elements of the covering forces establish aid stations of minimal size or operate in the split team mode (FM 8-10-4). Ambulances are deployed well forward to promptly clear patients from combat units. Medical care is limited to EMT and ATM followed by rapid evacuation whenever possible. The covering force surgeon maintains communications with attached aviation elements and uses these assets (augmented by medical personnel to provide en route medical care when feasible) to provide backhaul of casualties, rather than use ground ambulances. (Coordination for augmentation personnel is made with the supporting medical element prior to the execution of the operation.) The early evacuation of patients from BASs ensures their mobility for rearward displacement. The separate brigade or ACR medical company/troop must be prepared to receive patients generated in the covering force area. Depending upon the fluidity of the defensive situation, the medical company may be required to rapidly evacuate patients further rearward to an FSMC, an MSMC, or a corps hospital. This ensures that they retain their mobility to enable them to maneuver with other CS and CSS elements during the counterattack phase of the operation.

b. Forward deployed division ground ambulances may be OPCON to the covering force, when required. When used, the responsiveness of ground evacuation can be enhanced by establishing an ambulance shuttle system to decrease the ambulance turnaround time. (Refer to FM 8-10-6 for a discussion of the ambulance shuttle system.)

c. The wide dispersion of units and the manner in which they withdraw make patient acquisition difficult. When covering forces withdraw, patients are transported to the rear by the CHS element that has acquired them. Seriously wounded or injured patients are given priority for evacuation by air. (Usually few BFCs are generated during covering force operations, although delayed symptoms may occur once the element is withdrawn to a safe area.) Ground ambulances augmented by nonmedical transportation assets evacuate the remaining patients. No intraforce evacuation is attempted during the actual withdrawal. Patients are carried with the force to its destination or are transferred to other division CHS elements en route (as their medical conditions permit).

4-15. Main Battle Area

In the defense, units are task organized and employed according to their capabilities. As the covering force delays and identifies the strength, location, and direction of the main enemy attack, brigade commanders position battalion task forces to slow, canalize, and defeat the enemy's major units. In the conduct of the defense, it is anticipated that a strong and determined enemy can penetrate the forward defensive area. The task force may avoid being fixed by enemy forces through maneuver to successive battle positions.

a. The highly fluid nature of the battlefield makes the organization of company and battalion support areas temporary and unpredictable. The company aid post and the BAS are normally located within these areas. There may be extended periods of time when there are no safe ground or air evacuation routes, and the coordination of patient evacuation is slow and tedious at best.

b. The nature of the defending forces' mission and employment requires modification of normal Echelon II CHS. Clearing stations are located in the BSAs and DSAs; they are routinely placed toward the center of the support area. During static situations, initial commitment of division ambulances in support of BASs is minimal. Lengthy and unsecured ground routes may permit ground evacuation of patients only at periodic intervals. Air ambulances should be deployed to assume this role if the tactical situation permits. If evacuation cannot readily be accomplished, the treatment elements must be prepared to hold patients until evacuation is possible. Resupply to the forward treatment elements is made using the backhaul method on those evacuation platforms that get through. The division medical companies routinely support brigades; however, in this environment the companies may be employed in a GS role to the entire division. This technique enables the forward CHS elements to maintain a high degree of mobility and support areas of high casualty density as the battle develops.

Section IV. RETROGRADE OPERATIONS

4-16. General

A retrograde operation is a movement to the rear or away from the enemy. This type of operation may be forced by enemy action or may be executed voluntarily.

4-17. Combat Health Support for Retrograde Operations

Combat health support in retrograde movements may vary widely depending upon the operations, the enemy reaction, and the situation. Firm rules that apply equally to all types of retrograde operations are impossible to establish. Factors to consider in planning CHS for retrograde operations include—

- Mission, enemy, terrain, troops, and time available.
- Requirement for maximum security and secrecy in movement.
- Influence of refugee movement (which may impede military medical movements conducted in friendly territory).
- Integration of evacuation routes, obstacles, and barrier plans.
- Difficulty in controlling and coordinating movements of the force which may produce lucrative targets for the enemy.

a. The effect of time on treatment and evacuation (the number of patients removed from the battlefield) is dependent upon the time and means available. In stable situations and in the advance, time is important only as it affects the physical well-being of the patient. In retrograde operations, however, time is more important. As available time decreases, the battalion, brigade, and division surgeons must evaluate their capability to collect, treat, and evacuate all patients.

b. The MSR and general evacuation routes are congested during retrograde operations. Patient evacuation is difficult due to heavy traffic on the supply routes. Command, control, and communications may be disrupted by the enemy. The measures taken to counteract factors impeding evacuation are beyond the control of the CHS commander.

c. Special emphasis must be placed on the triage of patients and the type of evacuation platforms available. Seriously wounded patients should be evacuated by the fastest and most comfortable means and should receive medical care en route. Proper sorting (triage) and rapid evacuation of patients lessens the need for establishing a complete clearing station operation. Battle fatigue casualty rates are usually low relative to WIA rates during controlled retrograde operations, but increase after safety is reached.

d. When the patient work load exceeds the means available to move them, the tactical commander must make the decision whether or not patients are to be left behind. The surgeon must ensure that the tactical commander is kept informed about the need to reach a timely decision in this regard. Medical personnel and supplies must be left with patients who cannot be evacuated.

e. During retrograde operations, CHS elements are usually displaced by echelon. Patients are not normally held at the division clearing station during these operations. Locations for successive positions from forward to rear areas must be planned in advance. Since the general direction of movement is toward the location of existing CHS elements, initial locations may be placed farther to the rear than in other types of operations. For continuity of support, the next rearward location is occupied by an MTF prepared to function before the forward MTF is closed or displaced.

f. Frequency of displacement is determined by the rate of movement, the distances involved, and the tactical situation. Combat health support units must be displaced before they

hamper the maneuver forces conducting the retrograde movement. Displacement can be made by echeloning within units, or by moving complete units.

g. Operations to be undertaken at the conclusion of the retrograde movement must be considered when planning CHS. This consideration is most important in preparing for the later phases of movement.

h. When the retrograde operation involves a rearward passage of lines, detailed advance planning between surgeons of the units concerned is required. The CHS plan for the support, of both divisions during the passage of lines stipulates that the passing unit transports its own patients to the rear. Critically sick or injured patients may be transferred to the unit in place to expedite their treatment. This technique is employed to preserve the mobility of CHS in the unit which is to assume the covering force or defensive role. In retrograde operations, more than any other maneuver, mobility of the CHS element must be maintained. This permits their rapid movement without the need to abandon patients. The CHS commander can assist in maintaining this mobility by keeping his MTFs free of patient accumulation by coordinating the evacuation with supporting CHS elements and by forecasting increases in patient work loads.

4-18. Withdrawal Operations

A withdrawal operation is one in which a deployed force disengages from an enemy force. It may be forced by enemy pressure or conducted voluntarily.

a. Although the deployed force disengages from the enemy, contact is maintained by security elements while the main force moves to the rear, forms march columns, and moves to a predesignated location. ln the preferred method of withdrawal, conducted voluntarily at night or during periods of poor visibility (to include obscuration), the forces in contact with the enemy echelon to the rear. This is done by designating an element of combat forces to remain in contact with the enemy and to provide protection to the withdrawing force. Echelon I CHS elements must be prepared to support the withdrawing force as well as the force left in contact; this is accomplished by using the split team mode (FM 8-10-4). Time available to acquire, treat, and evacuate patients from the line of contact may be critical

b. The daylight withdrawal (employed as a last resort measure) normally requires movement of a withdrawing main body behind a covering force. Echelon I CHS of the covering force is provided as discussed in paragraph 4-14, except that extensive air evacuation of patients cannot be anticipated because of OPSEC restrictions and lack of air superiority and cover. Medical platoon sections of the covering force maneuver elements are normally not reinforced with medical company assets due to the heavy patient work loads in the division MTFs. Division TSOPs, OPLANs, and OPORDs prescribe the priorities for use of general purpose vehicles for patient movement. They also provide the covering force commander with basic guidance for alternate plans to move patients when the force must displace rearward without sufficient ambulance assets.

c. The medical company supporting the withdrawing force must ensure it maintains sufficient clearing station capability at its present location to support the patients while taking action to move to a new location. The newly established clearing station must be operational prior to closing and moving the element located in the forward location. In addition to the CHS provided to the force left in contact, there is a requirement to support the force moving to the rear. If the move of the main force is by infiltration, patients are carried by their parent units to the rear assembly area or CHS elements in rear areas, and CHS assets are positioned in the assembly area to receive patients.

d. Division clearing stations are established at a minimal size and well to the rear of the first line of alternate positions. If combat and environmental conditions indicate a light patient work load and the road net permits rapid ambulance movement, another clearing station may be used to provide GS to all withdrawing brigades. This support consists of sorting patients to determine who may be evacuated to corps hospitals and to provide EMT to stabilize patients for further movement. Definitive treatment is provided to only those patients with minor injuries or wounds or BF; these patients may be transported on general purpose vehicles. Clearing stations leapfrog rearward, occupying successive positions placed deeply along the withdrawal route to minimize the requirement for multiple displacements by any one MTF. This avoids unnecessary interference with combat operations while providing continuous CHS. Division ambulances are employed no farther forward than the BAS, except that an ambulance squad may be required to support the covering force in a daylight withdrawal. If the withdrawal is rapid, ambulance elements leapfrog rearward prepositioning ambulance teams to support each succeeding BAS location, rather than the customary shuttling of ambulances between BASs and division clearing stations. Preparation for the withdrawal operation includes distribution of extra medical consumable supplies and nonexpendable exchange items to each CHS element. This allotment is required to overcome effects of isolation of treatment elements and the possible intermittent operation of the medical evacuation system.

e. If withdrawal is made under enemy pressure, the provision of CHS is modified. Since the time available is critical, CHS resources cannot remain in the forward areas. The assets are usually withdrawn as a unit. Patients occurring during the withdrawal are carried to the rear areas by the parent unit, normally using nonmedical vehicles.

4-19. Delaying Operations

Delaying operations occur when forces are insufficient to attack or to defend and when the defensive plan calls for drawing the attacker into an unfavorable situation.

a. The usual delay maneuver in successive positions employs the major force on position across a broad front. Delaying brigades split their combat power, moving their less mobile forces directly to the next defensive position while the elements remaining in contact fight to the rear. Echelon I CHS is provided, as discussed, in withdrawal operations. Echelon II CHS usually requires continuous operation of two (or more) clearing stations, each in DS of the delaying forces. This technique provides adequate CHS to a wide front.

b. The tactic of delay at alternate positions involves two maneuver units in a single sector. While the first is engaged, the second occupies the next position and assumes responsibility for the

operation. The first force disengages and passes through and around the second. It then prepares to resume the delay from a position of greater depth, while the second force takes up the fight. Battalion aid stations establish facilities of minimum size and may split for rearward displacement. Ambulance support is deployed forward to provide extensive lateral coverage and expedite patient evacuation from the units in contact. One clearing station of minimal size provides adequate support for units in contact. Clearing stations leapfrog rearward as units displace. Additional Echelon II ambulances to support the forces in contact are deployed both at BASs and clearing stations to speed evacuation and to assist in moving patients during displacement.

4-20. Retirement Operations

a. A retirement is a rearward movement of a force not in contact with the enemy. It is conducted according to the force's OPLAN and without pressure by enemy forces.

b. Because the division is no longer in contact with the enemy, it can march (in multiple columns) directly to the rear. The CHS requirements for this type of operation are similar to those in a movement to contact (paragraph 4-8). The patient work load is light. Augmentation of organic medical platoon assets may be required. The treatment team capability, however, should be adequate. Treatment and evacuation support at the rear of the main body is similar to that of a withdrawal operation. The prospect of an extended retirement march requires reinforcement from corps ground ambulance assets. Division clearing stations displace sufficiently to the rear before the main force moves to preclude further displacement during the operation.

Section V. LIGHT-HEAVY/HEAVY-LIGHT OPERATIONS

4-21. General

a. Light-heavy and heavy-light force mixes can be employed effectively to enhance and maximize the tactical commander's combat power. If the force is tailored properly, the force mix will offset the inherent weaknesses of one type of unit with the inherent strengths of another type unit. Support to this type of force must be comprehensively planned and be flexible.

b. Heavy forces are comprised of the mechanized infantry, armored, and cavalry forces, Light forces include the light infantry, airborne, and air assault forces. Heavy forces are most effective where battles are fought over wide areas of relatively unrestricted terrain, while light forces are most effective in close terrain.

4-22. Combat Health Support of Light-Heavy/Heavy-Light Mixes

a. When heavy and light units are cross-attached, the CHS planner must ensure that the CHS package is tailored correctly to support the forces involved.

(1) *Command and control.* The CHS plan must clearly define C^2 relationships between units, and what unit is providing the required support.

(2) *Cordination and communications.* The medical units involved must have the ability to communicate with each other. A dedicated medical operations net (FM 11-32) will be designated to ensure the timely response to medical evacuation requests and emergency resupply requests and to coordinate the activities of the deployed CHS assets.

(3) *Modular medical support system.* The modular medical support system facilitates the cross-attachment of light-heavy units because it provides like modules in each type of unit. The number of modules available is determined by the type of parent unit.

(4) *Mobility.* Of concern to the CHS planner is the mobility of the assets employed. If light forces are providing CHS to heavy forces, they must be augmented with tracked ambulances. The light forces' organic wheeled ambulances do not possess sufficient mobility to provide adequate support to heavy forces. In addition, to ensure the availability of tracked ambulances for support, the planner must also ensure that a maintenance capability to sustain the tracked ambulances is also included in the plan.

b. For additional information on light-heavy and heavy-light operations, refer to FM 63-2-1, FM 71-100 and FM 71-100-2.

CHAPTER 5

COMBAT HEALTH SUPPORT IN SPECIFIC ENVIRONMENTS

5-1. General

a. Combat health support is limited to the same degree as combat effectiveness when operating in areas of extreme weather or terrain hazards. In these environments, medical units may require special purpose equipment, which is not normally included in their TOE, or additional quantities of authorized equipment. This equipment can include, but is not limited to, such items as—

- Mountain climbing gear.
- Cold weather bags for the protection of patients.
- Additional tentage.
- Modified transportation platforms.
- Bed nets.

b. Of equal importance, special handling techniques, increased maintenance, and protection from the elements or hazards may be required for supplies and equipment.

c. This chapter discusses CHS operations, including ground ambulance operations, in specific operations; only slight reference is made to air ambulance operations. For an in-depth discussion of air and ground ambulance operations in these environments, refer to FM 8-10-6. For additional information on aviation-specific topics, refer to FM 1-202 and FM 1-400.

5-2. Jungle Operations

a. Difficult terrain, widely dispersed combat units, inadequate road networks, and unsecured LOCs all have a direct effect on CHS in jungle operations. The jungle environment degrades the ability to maneuver. The manner in which CHS is provided in this environment depends on how the tactical units are employed. Wide variations may be expected, but the genera! principles of providing CHS apply.

b. Jungle combat operations are characterized by ambushes and other guerrilla-type operations. The security threat caused by infiltrators requires that LOCs be patrolled often and that convoys be escorted. It is, therefore, essential that CHS be performed as far forward as the tactical situation permits. Deploying assets forward—

- Improves response time.
- Reduces road movement.

- Allows the CHS elements to take advantage of the security offered by combat units.

c. Special planning considerations for operations in the jungle environment include the following:

- *Evacuation.* Thick and remote jungles often require that evacuation be accomplished by litter. In the jungle, even slightly wounded soldiers may find it impossible to walk through the dense undergrowth. This requires that they be evacuated on a litter until easier terrain is reached. This, in effect, raises the number of patients who require evacuation by litter. Litter evacuation is a labor-intensive activity that quickly exhausts the litter bearers. At best, litter teams can carry patients only a few hundred yards over rough terrain before becoming exhausted and requiring rest or relief. Litter hauls should be kept as short as possible, and maximum use of air ambulances equipped with rescue hoists and jungle penetrators should be made.

- *Water.* Water is vital in the jungle; it is also plentiful. Water from natural sources, however, should be considered contaminated. *Water purification procedures must be taught to all soldiers.* The high humidity and heat present in the jungle environment requires all leaders to ensure that a water discipline program is established and enforced. The consumption of inadequate amounts of water leads to dehydration and heat injuries. The human body cannot adjust to less water; hydration must be continuous.

- *Clothing and personal protective equipment and supplies.* Because of the tropical climate, units should pack hot weather clothing when deploying to jungle areas. Jungle fatigues and boots are recommended. The bed net, insect (arthropod) repellent, and sunscreen should be issued to all soldiers operating in this environment.

- *Disease and nonbattle injuries.* The jungle environment is ideal for the transmission of large numbers of diseases. The rate of DNBI casualties is potentially the highest in this climate. The heat, humidity, and terrain place the troops at a high risk for dehydration, heat injury, skin diseases, endemic diseases, and immersion syndrome. Cold injuries are a risk in cool (night) times because wet hot-weather clothing loses its insulating value. Small wounds can rapidly become infected and lead to the loss of effectiveness and possibly require evacuation. High standards of personal hygiene must be taught, encouraged, and maintained by the command. Mosquitoes and other arthropods that carry disease flourish under jungle conditions. Use of all personal protective measures must be ensured. Poisonous plants, animals, arthropods, large predators, and reptiles can cause casualties. Foodborne and waterborne diseases leading to diarrhea or other symptoms abound. Food service sanitation measures must be strictly followed. For additional information on PVNTMED measures, refer to FM 21-10 and FM 21-10-1.

- *Stress and battle fatigue.* The jungle restricts vision and hearing, causes discomfort and poor hygiene, and evokes a sense of threat from poisonous plants, animals, reptiles, enemy ambush, and the fear of becoming lost. Battle fatigue rates are high until troops gain jungle fighting and survival skills.

- Training. Personnel (especially CHS personnel) deployed to a jungle environment should be trained in survival and support techniques. Training (both initial and refresher) should be conducted on—
  - Hot weather acclimatization and survival.
  - Self-aid, buddy aid, and combat lifesaver skills for nonmedical personnel.
  - Prevention, early detection, and treatment of arthropodborne, foodborne, and waterborne diseases.
  - Land navigation.
  - Field sanitation and other PVNTMED measures.
  - Care and maintenance of equipment and supplies.
  - Local plants, animals, reptiles, and arthropods which pose a medical threat.
- *Equipment and supplies.* Due to the increased heat and humidity, vehicles and equipment require additional maintenance. Equipment tends to rust quickly and must be cleaned and oiled more frequently. Canvas items rot, and rubber deteriorates much faster than in more temperate climates. Class VIII supplies (to include blood) are both environmental and time sensitive. These supplies must be correctly stored at the appropriate temperature and used before their expiration date. Improper storage and handling result in these supplies becoming unusable.

d. For additional information on jungle operations, refer to FM 8-10-4, FM 8-10-6, and FM 90-5.

5-3. Mountain Operations

a. In the past, armies have experienced great difficulty in evacuating patients from mountainous areas. Mountain environments are extremely diverse in nature. Some mountains are dry and barren with temperatures ranging from extreme heat in the summer to extreme cold in the winter. In tropical regions, mountains are frequently covered by lush jungles, and heavy seasonal rains may occur. Many areas display high rocky crags with glaciated peaks and year-round snow cover. Elevations can also vary from as little as 1,000 feet above sea level to over 16,000 feet above sea level with drastic and rapidly occurring weather changes.

b. In order to effectively support the tactical plan, the CHS plan must provide maximum flexibility. The CHS planner should consider using all methods of evacuation. Because of the rough terrain, the medical companies may not be able to reach the BASs by ground ambulances. An ambulance shuttle system established with an AXP for aeromedical evacuation assets to meet litter bearers may be required. Litter bearers and beasts of burden, however, may be the only means of

evacuation. The tactical commander determines what soldiers will serve as litter bearers. Close coordination between the medical companies and BASs in establishing patient collecting points and AXPs is necessary to—

- Reduce distance traveled by litter bearers.
- Reduce evacuation time.
- Conserve personnel.
- Locate potential landing sites for air ambulances.

c. Mountain operations require CHS personnel to carry additional equipment. Items such as ropes, pitons, piton hammers, and snap links are all necessary for evacuation of patients and the establishment of MTFs. Unnecessary equipment (especially that which is heavy or bulky [for example, extra tentage], or that for which substitutes are available) should be left behind. If stored, this equipment and supplies should be readily available for airdrop or other means of transport.

d. Survival training is essential in this environment. Combat health support personnel should be trained in survival skills encompassing the following areas:

- Traversing mountainous terrain (to include mountain [rock] climbing and the use of ropes and vertical rescue techniques).
- Exposure to extreme cold and snow (to include cold injury prevention).
- Land navigation.
- Preparation of field expedient, shelters.
- Individual and unit movement at high altitudes.
- Care and treatment of patients suffering from high altitude illness and cold weather injuries.

e. Combat health support personnel will see an increase in patients suffering from—

- Fractures, sprains, and dislocation injuries.
- Acute mountain sickness, high-altitude pulmonary edema, and cerebral edema caused by the rapid ascent to heights over 7,500 feet above sea level.
- Cold weather injuries and hypothermia.
- Dehydration and heat exhaustion.

- Sunburns and snow blindness.

- Aggravated sickle cell anemia. (Although not considered a mountain illness, personnel with sickle cell traits can be seriously affected by the decrease in the barometric pressure and lower oxygen levels found at higher altitudes.)

- Stress and battle fatigue. Mountains confer a psychological advantage to those who hold the high ground with good fields of vision and fire. Those who are confined to the valleys or roads or who must struggle up hill against snipers or indirect fire tend to have higher BF rates.

f. For additional information on mountain operations, refer to FM 90-6. For additional information and techniques for the extraction and evacuation of personnel deployed in mountainous terrain, refer to FM 8-10-4 and FM 8-10-6.

5-4. Desert Operations

a. Deserts are arid, barren regions of the earth incapable of supporting normal life because of the lack of fresh water. Although deserts are often thought of as hot climates, it is important to note that temperatures range from over 136 degrees Fahrenheit (F) in some deserts to bitter cold in others. Day-to-night fluctuations in temperature can exceed 70°F. Desert terrain can have mountains, rocky plateaus, or sandy dunes; some desert areas may contain all of these characteristics. Rain, when it falls, often causes flooding in low-lying areas. Winds can have a devastating effect upon CHS operations by destroying equipment and supplies and causing dust storms. Dust storms make navigation and patient acquisition and treatment difficult. Since deserts vary considerably in their epidemiological characteristics, current and specific medical intelligence should be obtained prior to deploying to a desert environment.

b. The CHS planner must consider the numerous environmental effects to personnel, equipment, and supplies when constructing the CHS plan for this environment. These factors include, but are not limited to—

(1) *Acclimatization.* To be effective, soldiers must be properly acclimatized to the desert. Two weeks are usually required to satisfactorily acclimatize troops to a hot environment, using progressive degrees of heat exposure and physical exertion. Other potential acclimatization problems that may be encountered are the effects of dry air and altitude on the respiratory system. Since many desert areas are located in mountainous terrain, soldiers may require becoming acclimatized to the cold, in addition to the altitude.

(2) *Discipline.* Units deployed in desert areas typically have long LOCs and are widely dispersed. This necessitates a greater reliance on the junior leaders since commanders are required to decentralize operations. For a unit to be effective, a high level of discipline must exist at all levels of the organization.

(3) *Water.* Water is the most basic need in a desert. Without it, soldiers cannot function effectively for more than a few hours.

- Thirst is not an adequate indicator for the need for water. **It is necessary for each commander to establish and enforce a supervised drinking program.** Experience has shown that soldiers do not drink enough fluids unless forced to do so. It is important to cool the water to make it more appealing if at all possible. Water supplies should be carefully guarded against accidental loss, sabotage, or contamination.

- Extra water must be carried by medical vehicles and be available in MTFs. The additional quantities of water are required for patient consumption, treatment of heat casualties, and routine operation of the MTF.

(4) *Endemic disease and environmental injuries.* Soldiers deployed in the desert are susceptible to endemic and epidemic diseases and environmental injuries.

- Water discipline, vaccines, prophylactic measures, field sanitation, personal hygiene, and other PVNTMED measures can reduce the risk of disease.

- Proper clothing, equipment, and a water discipline program to protect against environmental injuries must have command emphasis.

(5) *Stress.* The desolate, often wide-open spaces of many deserts can cause uneasiness, disorientation, and fear of being observed or becoming lost. These circumstances may result in high stress and BF rates until troops learn to navigate, move, camouflage, and use other survival skills in this environment.

(6) *Winds, dust, and sand.* Winds may very easily damage equipment and supplies. Equipment is protected by using covers, tie-downs, and shelters. Terrain helps shield equipment from the wind if the site selection is done carefully. In some cases, special tools (such as extra long metal tent stakes) are necessary. Supplies must be carefully stored and protected from the effects of the wind and sand.

- The effects of wind and sand are interrelated. Desert sand starts to become airborne when the wind reaches about 20 knots. Sandstorrns—

  - Restrict visibility.
  - Pose a hazard to eyes (especially for soldiers wearing contact lenses).
  - Contaminate water supplies (if they are not protected)
  - Make navigation difficult.

- Dust presents one of the greatest dangers to the proper functioning of equipment. Sand mixed with lubricants forms an abrasive paste. Lubrication fittings, bearings, and filters should be inspected frequently and changed when required.

- Communications equipment may be adversely affected by dust and sand. Over a period of time, electrical insulation is damaged by wind-blown sand. Special care should be taken to brush dust off radio equipment and to keep ventilating ports and channels clear.

- Sand can accumulate in airframes, on the bottom of armored vehicles, and in bearings on all types of equipment. This accumulation, combined with oil and condensation, adds extra weight to aircraft and may also jam its control linkages. Sand and grease buildups must be removed from bearings to ensure safe operation and control of aircraft and vehicles.

- Dust trails created by hovering aircraft or ground vehicles can be seen in excess of 10 miles on a relatively flat desert. This exposes these assets to direct and indirect enemy fires. If the tactical situation permits, ground vehicles should reduce their speed to the point that they do not create a dust signature.

(7) *Terrain*. Trafficability varies with the type of terrain covered. Open, flat, and rocky terrain affords higher trafficability than does mountainous areas, lava beds, or salt marshes. Drivers must be well trained in judging the terrain over which they are driving to select the best route.

- Tracked vehicles are best suited for desert operations. They can, however, throw tracks when traversing a rocky area. Their use is also limited in rough terrain with steep slopes.

- Wheeled vehicles may be used in desert operations; however, they normally have a lower average speed than tracked vehicles and a higher incidence of damage and malfunction. Wheeled vehicles often bog down in sandy areas and cannot traverse many of the rougher areas.

- Vehicles should carry extra repair parts (fan belts, tires, and other items apt to malfunction).

(8) *Heat*. Excessive heat causes vehicles to overheat, leading to greater than normal wear. The frequency of leaks on vehicles and aircraft is greater than in other environments. Engine and transmission seals tend to dry out and crack; fuel lines wear out quickly; and water requirements for cooling vehicle engines are greater. Loss of water through evaporation must ‘be considered in logistical planning.

- Batteries do not hold their charge efficiently in intense heat. Dry battery supplies should be increased to compensate for a higher usage rate.

e. Communications equipment must be protected from the heat. Dust covers are used on this type of equipment. If the equipment has ventilating ports, these should be cleaned regularly to avoid clogging.

- Medical supplies (to include blood) must be protected from the heat to prevent deterioration. The shelf life of some medical supplies decreases when stored in hot climates.

(9) *Radiant light.* The sun burns unprotected skin, and it may damage unprotected eyes. Soldiers should dress in loosely fitting clothing, use sunscreen to protect exposed skin, and wear sunglasses or goggles to protect their eyes. Soldiers should remain fully clothed. Removing clothing increases direct exposure of the skin to the sun and eliminates the beneficial cooling effects of the moisture trapped in clothing. Radiant light or its heat effects may be detrimental to plastics, lubricants, pressurized gases, rubber, and other fluids. All vehicles and aircraft should be kept well ventilated. When parked, windshields should be covered to reduce heat buildup inside. Supplies of all types should be stored in well-ventilated, shady areas. Placing supplies in covered holes in the ground may reduce the heat effects.

(10) *Humidity.* Humidity is a factor in some desert areas of the world, especially in the Middle East. Humidity can become a problem for short periods of time in other desert areas. Light coats of lubrication can help prevent rust; however, these benefits should be weighed against the dust gathering qualities of oil. Demisting equipment is used on optics and night vision equipment to combat the effects of humidity.

(11) *Temperature variations.*

- Temperature variations can cause condensation in humid desert areas affecting optics, fuel lines, air tanks, and weapons.

- Expansion and contraction of air and fluids may cause vehicle and equipment, problems. Vehicle and equipment operators must ensure that the effects of temperature variations do not become a significant problem. Temperature variations may cause—

  - Tires to overinflate during the day and underinflate at night.

  - Fuel tanks to overflow during the day causing a fire hazard.

  - Oil fluid levels to become overfull and cause leaks during the day, or to provide insufficient lubrication at night when the oil cools.

(12) *Static electricity.* Static electricity is a factor in the desert. During refueling operations and when oxygen or other flammable substances are being used on board vehicles, it is important to remember that it presents a real hazard. Proper refueling procedures must be followed. Static electricity also causes severe shocks to ground personnel in sling-loading and hoist operations. (Refer to FM 8-10-6 for additional information on sling-loading and hoist operations.)

c. To ensure success in desert operations, detailed planning is required. Factors to consider include the following:

- **Water is as mission essential as any piece of unit equipment.** Additional quantities of water are required for CHS operations for the survival of both medical personnel and patients. Load plans for all vehicles and aircraft must include water.

- Prescribed load lists are expanded to carry sufficient quantities of repair parts easily degraded by the environment.

- Covers should be fabricated (prior to deployment, if possible) for equipment (especially communications and electronic), supplies, and vehicles.

- Fuel usage and consumption are critical due to the extended ranges between supported units and increased vulnerability for refueling sites in the open desert terrain.

- Appropriate clothing for both hot and cold weather is required.

- Petroleum, oils, and lubricants must be of the proper viscosity for desert operations. Maintenance services are also performed more frequently.

- Small packages/amounts of Class III packaged products should be used to avoid contamination by blowing sand.

- Filters of all types are consumed at a higher rate.

d. Training for desert operations is not significantly different than training for operations in other areas except for the following:

(1) *Mountain training.* Because many desert areas are in mountainous terrain, procedures and techniques for evacuation in mountainous terrain must be practiced by all CHS personnel. Special equipment requirements must also be planned for (paragraph 5-3).

(2) *Navigation.* Navigation in desert terrain varies from relatively simple to extremely difficult.

- Factors affecting navigation are—
  - Type of desert.
  - Scale and quality of available maps.
  - Other navigational guides which are available.
- Ground vehicles must have compasses available as they may have to rely on compass headings and odometer readings to navigate.

- Use of convoys is a viable technique to ensure that ground vehicles do not get lost and to improve security.

e. For additional information on desert operations, refer to FM 8-10-4, FM 8-10-6, and FM 90-3.

5-5. Extreme Cold Weather Operations

a. Operations in the extreme cold are adversely impacted by severe environmental conditions and rugged terrain. The tundra and glacial areas are harsh, arid, and barren. Temperatures may reach lows of -80°F to -100°F which, combined with gale force winds, make exposure unsurvivable. The greatest environmental detriment to operations is blowing snow, which reduces visibility to zero. This results in the loss of depth perception from total white conditions.

b. Other environmental considerations are as extreme but easier to circumvent. Solid footing is suspect in both the dead of winter and in the summer. Snow and ice covers crevasses, holes, and otherwise unstable ground. In traversing suspect ground situations, consider linking soldiers by rope. During the summer, ground transportation is more restricted than in any other environment due to the marsh and muskeg composition of the arctic tundra. In CHS operations, patients must be sustained for a longer duration due to terrain delays and the lack of direct evacuation routes.

c. Combat health support personnel may see an increase in the following types of DNBIs:

- Cold injuries (ranging from minor frostnip to severe frostbite, especially of the feet, to hypothermia).

- Dehydration and heat exhaustion.

- Stress and battle fatigue. (The similarity of arctic and desert terrain may also cause disorientation and a sense of exposure.) Extreme cold can psychologically paralyze the inexperienced troop and reduce him to a budding “survival first and only” mentality.

d. Factors to consider when conducting CHS activities in extreme cold operations include the following:

- Patients must be kept warm as the effects of the extreme cold can hasten and/or deepen shock.

- Improvised shelters may be required for patient holding (due to unexpected snow storms or vehicle breakdowns); the shelters must be able to be heated (such as in a cave). The longer the period the patient must be held in the improvised shelter, the more important it is to fortify it against the effects of the cold.

- Blood and IV fluids must be protected from freezing, both when in use and when stored.

- Establishing an ambulance shuttle system (FM 8-10-6) or patient collecting points is useful when operating in extended battle zones, or when evacuation distance and time required are increased.

- Augmentation of air and ground ambulances from higher echelon CHS elements and/or use of nonmedical transportation assets may also be required to meet the extended evacuation needs.

- Additional supplies of water should be carried by ambulances and maintained at patient collecting points, AXPs (if manned), and MTFs.

- Due to the decreased temperature and frozen environment, vehicle maintenance requirements are increased. Lubricants must be of the correct viscosity for the temperature. In extreme cold, batteries perform less efficiently. Batteries may have to be removed from the vehicles and kept in a warm place to ensure prompt starting. Engines may also have to be kept running to avoid freeze-ups or long warm-up periods. **All ambulances are considered deadlined without a functional heater in the patient compartment.**

- The proper storage of medical supplies is essential to prevent loss from freezing.

- There are few terrain features or road networks; therefore, evacuation routes must be surveyed and marked over open terrain. At extreme latitudes, operations during the winter months are conducted in extended hours of darkness. The use of night vision goggles (NVGs) may be required. Compass accuracy is inconsistent due to geomagnetic phenomenon.

- Landing zones must be chosen with extreme care in both winter and summer. Blowing snow mandates instrument-assisted takeoffs and running landings. Landing zones must be correspondingly larger.

e. The CHS planner must ensure that comprehensive plans are developed for extreme cold weather operations. Further, thorough preparation is required to ensure survival and mission accomplishment in this environment. Factors to consider include, but are not limited to, the following:

- Mud obstacles at noon may become an avenue of approach at night.

- Snow complicates all work. Snow-covered terrain—

  - Hampers reinforcements.

  - Muffles noise.

- Makes cross-country driving hazardous.
- Creates different camouflage requirements.
- A complete reappraisal of concealment requirements is necessitated by the use of thermal sights.
- Tracks in the snow destroy concealment.
- No soldier is assigned to any job alone. The buddy system is used at all times.
- Maintenance tasks take twice as long as they do in more temperate climates.
- Bare metal can stick to skin or wet garments in subfreezing temperatures.
- Fuel spilled on skin or garments increases the freezing factor; it is one of the greatest causes of injury in winter operations.
- Petroleum, oils, and lubricants requirements are increased in this environment.
- Every effort must be made to warm gear boxes and engines before starting the vehicle..
- The first consideration in the AO is heat; followed by shelter for sustained work.
- Soldiers need to stand clear of taut cables; steel tends to be brittle and breaks in extremely cold temperatures.
- Fire extinguishers are winterized by adding 15 percent nitrogen to the carbon dioxide (CO_2).
- Radio sets must be warmed up prior to transmission. The sets may be turned on but should not transmit for at least one-half hour.
- Frost shields (such as using the plastic bag in which the batteries are packed) should be placed over microphones.
- Grounding rods have to be buried horizontally instead of pounded vertically. Recovery of stakes and rods placed in the ground is significantly more difficult.
- Flooring is needed in heated areas because the heat will thaw the tundra.
- Soldiers must take breaks for water and warmth.
- Static electricity presents a serious hazard especially around flammable products.

5-6. Nuclear, Biological, Chemical, or Directed-Energy Environment

On future battlefields, the enemy may employ NBC weapons and DE weapons/devices. Nuclear, biological, chemical, and DE protective measures and procedures to mitigate their effects must be included in the medical company training programs and daily operations. Nuclear, biological, chemical, and DE actions create high casualty rates, materiel losses, obstacles to maneuver, and contamination.

- Mission-oriented protective posture (MOPP) Levels 3 and 4 result in body heat buildup, reduction of mobility, and degradation of vision, touch, and hearing senses.

- Laser protective eyewear may degrade vision, especially at night.

- Contamination is a major problem in providing CHS in an NBC environment. To increase survivability, as well as supportability, the medical company must take necessary action to avoid NBC contamination. Maximum use must be made of—

  - Alarm and detection equipment.

  - Unit dispersion.

  - Overhead cover, shielding materiels, and collective protection shelters (CPS), when available.

  - Chemical agent resistant coatings.

- Generally, a biological aerosol attack will not significantly impact materiel, terrain, or personnel in the short term, although toxins can be an exception.

- Field Manual 3-3, FM 3-4, FM 3-5, FM 3-100, FM 8-10-4, FM 8-10-7, FM 8-50, FM 8-250, and FM 8-285 contain detailed information on—

  - Characteristics and soldier dimensions of the nuclear battlefield.

  - Nuclear, biological, and chemical operations.

  - Extended operations in contaminated areas.

  - Contamination avoidance.

  - Nuclear, biological, chemical, and DE protection.

  - Mission-oriented protective posture levels.

- Patient decontamination.
- Prevention and medical management of laser injuries.

a. Medical Planning Factors. Combat health support planning for the integrated battlefield must be comprehensive and thoroughly coordinated. In addition to the traditional CHS provided combat units, planning for EMT for civilian casualties, consistent with the military situation, must be included. The medical company commander should forecast the expected number of casualties, institute triage, and provide EMT. For additional information on CHS planning in this environment, refer to FM 8-10-4, FM 8-10-6, FM 8-10-7, FM 8-55, and FM 8-285.

b. Logistical Considerations. The medical company is organized and equipped to provide support in a conventional environment. However, it must be trained and prepared to operate in all battlefield situations. Employment in an NBC environment will necessitate the issue of MESs, chemical patient treatment, and chemical patient decontamination.

- The DMSO maintains a 48-hour contingency stock level of Class VIII supplies. These medical supplies and equipment must be protected from contamination. Class VIII stocks are dispersed throughout the unit area to prevent or reduce damage and contamination caused by NBC weapons. Combat, health support plans include the protection (NBC hardening) of stocks and the rapid resupply of affected units. Contaminated items are decontaminated prior to issue to using units.

- The division PVNTMED section is responsible for testing the quality of water for the division. Water from local sources (lakes, ponds, wells, or public water systems) is subject to being contaminated. It is essential, therefore, to test the local sources for contaminants before use. Frequent retesting by water production personnel is recommended. Once a water source is contaminated, it is marked with the appropriate NBC contamination markers. The water is not used until a determination is made that it is safe for use, or water treatment equipment capable of removing the contaminants is employed. When water becomes contaminated, it is disposed of in a manner that prevents secondary contamination; then the area is appropriately marked. All water dispensing equipment is monitored frequently for possible contamination. Water supply on the NBC battlefield is provided on an area basis by elements of the MSB.

- Veterinary personnel supporting the division are responsible for inspecting Class I items. Inspection prior to issue or use of foods suspected to be contaminated is required at the user level.

c. Personnel Considerations. During NBC and DE actions, CHS requirements will increase and medical reinforcement may be necessary. Following an enemy NBC attack, or employment, of DE devices, medical personnel provide EMT. Nonmedical personnel should provide search and rescue of the injured or wounded, provide first aid, and perform decontamination procedures. Nonmedical personnel are required to support, patient decontamination efforts (FM 8-10-7 and FM 8-285).

d. Collective Protection. A minimum of eight medical personnel are required to operate a CPS system and provide medical care. One EMT NCO performs triage and EMT on patients before decontamination. One aidman monitors the patient's medical condition during the decontamination procedures. Two aidmen monitor the patient's condition and provide care to patients when they leave the decontamination site. These individuals care for patients awaiting admission to the CPS; they also provide care for RTD or other patients requiring evacuation without receiving treatment in the CPS. Two combat medics operate from the CPS airlock. They remove the patient's protective mask and monitor the patient prior to his entering the interior of the CPS. They assist the physician and PA with the treatment inside the CPS. They also place the patient in a patient protective wrap (PPW) for exit from the CPS.

e. Civilian Casualties. Civilian casualties may become a problem in populated and built-up areas; the division clearing station may be required to provide assistance when civilian medical resources cannot handle the patient work load. Aid to civilians, however, will not be undertaken at the expense of CHS to US personnel.

f. Nuclear Environment.

(1) The three damaging effects of a nuclear weapon are blast, thermal radiation (heat and light), and nuclear radiation (principally gamma rays and neutron particles). Well-constructed foxholes with overhead cover and expedient shelters (reinforced concrete structures, basements, railroad tunnels, *or* trenches) provide good protection from nuclear attacks. Armored vehicles also provide protection against blast, thermal, and radiation effects of nuclear weapons. Casualties generated in a nuclear attack will likely suffer concurrent injuries (a combination of blast, heat, and radiation injuries) which will complicate CHS. Nuclear radiation casualties fall into three categories:

- The irradiated casualty is one who is exposed to ionizing radiation, but is not contaminated. He is not radioactive and poses no radiation threat to health care providers. A casualty who has suffered exposure to initial nuclear radiation will fit into this category.

- The externally contaminated casualty has radioactive dust and debris on his clothing, skin, and hair. The externally contaminated casualty should be decontaminated at the earliest time consistent with required CHS. Lifesaving care is always rendered, when necessary, before decontamination is accomplished. Radioactive contamination can be monitored with a radiation detection instrument such as the AN/PDR-27 or the AN/VDR-2. Removal of the outer clothing will result in greater than 90 percent decontamination. Soap and water can be used to further reduce the contamination level. A contaminated patient is unlikely to present a radiation hazard to attending medical personnel.

- The internally contaminated casualty is one that has ingested or inhaled radioactive materials or has had radioactive material injected into the body through an open wound. The radioactive material continues to irradiate the casualty internally until radioactive decay and biological elimination removes the radioactive isotope. Attending medical personnel are shielded, to

some degree, by the patient's body. Inhalation, ingestion, or injection of quantities of radioactive material su~cient to present a threat to health care providers is highly unlikely.

(2) Medical units operating in a residual radiation environment face three problems:

- Immersion of the MTF in fallout, necessitating decontamination efforts and the evacuation of patients already suffering from radiation sickness.

- Casualty production due to gamma radiation.

- Hindrances to evacuation caused by the contaminated environment.

(3) Medical triage achieves the most orderly, timely, and efficient use of medical resources.

- The triage process for nuclear casualties is different than for conventional injuries. The four categories for triage of nuclear casualties are—

  - Immediate treatment group (T1)—those patients requiring immediate lifesaving surgery. Procedures should not be time-consuming and should concern only those with a high chance of survival, such as respiratory obstruction and accessible hemorrhage.

  - Delayed treatment group (T2)—those patients requiring surgery but whose conditions permit delay without unduly endangering safety. Life-sustaining treatment such as IV fluids, antibiotics, splinting, catheterization, and relief of pain may be required in this group. Examples are fractured limbs, spinal injuries, and uncomplicated burns.

  - Minimal treatment group (T3)—these patients with relatively minor injuries, such as minor fractures or lacerations, who can be helped by untrained personnel or who can look after themselves. Buddy care is particularly important in this category.

  - Expectant treatment group (T4)—those patients with serious or multiple injuries requiring intensive treatment, or with a poor chance of survival. These patients receive supportive treatment compatible with resources, which will include large doses of analgesics, as applicable. Examples are severe head and spinal injuries, widespread burns, or high doses of radiation; this is a temporary category.

- Stress and BF casualties are normally in the minimal treatment group. It is important to give immediate reassurance, remove them from the triage area, beg-in physical replenishment (food, hydration, hygiene), and get them to work performing easy tasks which are within their physical and mental capabilities.

- The potential effect of radiation on triage of patients is shown in Table 5-1.

Table 5-1. Radiation Dosage and Degradation of Treatment Priorities

SERIAL	STARTING PRIORITY	FINAL PRIORITY LESS THAN 150 cGy	150-550 cGy	OVER 550 cGy
1	RADIATION ONLY	DUTY OR T3	T3**	T4
2	T1	T1	T1 OR T4*	T4
3	T2	T2	T2 OR T4*	T4
4	T3	T3	T3**	T4
5	T4	T4	T4	T4

NOTES:
(1) * In the case of full or partial thickness burns covering more than 18 percent of the body surface or trauma which would either result in significant infection or be categorized as severe but not normally immediately life threatening, such as a fractured femur. This is a clinical decision and not necessarily subjectively reproducible.
(2) ** Includes the probable requirements for antibiotics and transfusion at a later time. This classification does not suggest that the patient is not in need of treatment, but rather that he does not need immediate specialized care.
(3) cGy—centigray.

g. Biological Environment.

(1) A biological attack (using bomblets, rockets, or spray/vapor dispersal, release of arthropod vectors, and terrorist/insurgent contamination of food and water, frequently without immediate effects on exposed personnel) may be difficult to recognize. The medical company must monitor biological warfare indicators such as—

- Increases in disease incidence or fatality rates.
- Sudden presentation of an exotic disease.
- Other sequential epidemiological events.

(2) To mitigate the effects of most biological threats, soldiers should maximize the use of passive defense measures such as—

- Immunizations.
- Good personal hygiene.
- Physical conditioning.

- Arthropod repellents.
- Protective mask.
- Good field sanitation practices.

(3) Decontamination of most biologically contaminated patients can be accomplished by bathing with soap and water.

(4) Treatment of biological agent patients requires observation and evaluation of the individual to determine necessary medications.

h. Chemical Environment.

(1) Handling chemically contaminated patients may provide the greatest challenge to CHS units on the integrated battlefield. All casualties generated in a liquid chemical environment (are considered to be contaminated. Due to the vapor hazard associated with contaminated patients, medical personnel operating the division clearing station without a CPS system may be required to remain at MOPP Level 4 for long periods of time. When CPS systems are not available, clean areas must be located upwind from the contaminated area for treating patients.

(2) A patient-processing station for chemically contaminated patients must be established by the medical company to handle the influx of contaminated patients (Figure 5-l). Generally, the area is divided by a hotline into two major working areas: a contaminated working area situated downwind from a clean working area. Personnel on both sides of the hotline assume a MOPP level commensurate with the threat agent employed (usually MOPP Level 4). The patient-processing station should be established *in* a contamination-free area of the battle area. When CPS systems are not available, the clean treatment area is located 30 to 50 meters upwind of the contaminated work area. When personnel in the clean working area are away from the hotline, they may reduce their MOPP level. Chemical-monitoring equipment must be used on the clean side of the hotline to detect vapor hazards due to slight shifts in the wind current. If vapors invade the clean work area, medical personnel may have to remask to prevent low-level chemical agent exposure and minimize clinical effects (such as miosis).

(3) Initial triage, EMT, and decontamination are accomplished on the dirty side of the hotline. Life-sustaining care is rendered, as required, without regard to chemical contamination. Secondary triage, ATM, and patient disposition are accomplished on the clean side. When treatment must be provided in a contaminated environment, outside of CPS, the level of care may be reduced to first-aid procedures because treaters are in MOPP Levels 3 or 4.

(4) Medical companies require augmentation with nonmedical personnel to meet patient decontamination requirements created by a chemical attack. This augmentation must come from the supported units. See Appendix K for information on operating a patient decontamination station.

i. Directed-Energy Environment. A new dimension on future battlefields will be the employment of DE weapons/devices. These may be laser, microwave, or radio frequency generated

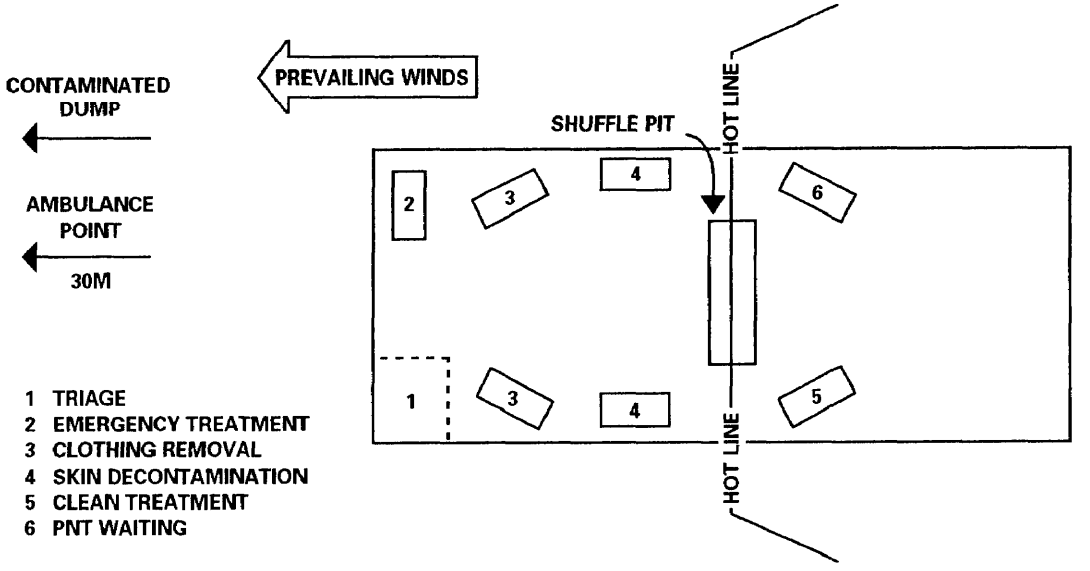


Figure 5-1. Division clearing station patient-processing station.

sources. Medical management of casualties from these sources will compound the already overloaded medical treatment resources. Information on the prevention and medical management of laser injures is contained in FM 8-50.

j. Medical Evacuation. For information on the medical evacuation of patients in a contaminated environment, refer to FM 8-10-6.

5-7. Military Operations on Urbanized Terrain

Throughout history, battles have been fought on urbanized terrain. Some recent examples include Hue, Beirut, and Panama City. Military operations on urbanized terrain (MOUT) are those military actions planned and conducted on a terrain where man-made structures impact on the tactical options available to the commander. This terrain is characterized by a three-dimensional battlefield, having considerable rubble, ready-made fortified fighting positions, and an isolating effect on all combat, CS, and CSS units. Of concern to the CHS planner is the need to plan, train, prepare, and equip for CHS from under, above, and at ground level.

a. The CHS plan must be flexible and capable of supporting unanticipated situations. Special equipment requirements for the provision of CHS include, but are not limited to—

- Axes, crowbars, and other tools used to break through barriers.
- Special harnesses; portable block and tackle equipment; grappling hooks; collapsible ladders; heavy gloves; and casualty blankets for shielding. This equipment is used to lower casualties from buildings or move them from one building to another at some distance above the ground.
- Equipment for the safe and quick retrieval from craters, basements, sewers, and subways. Casualties may have to be extracted from under rubble and debris.

b. Effective communications will be degraded in MOUT. The task-organized search and medical evacuation teams will have difficulty locating injured and wounded soldiers because of their isolation within buildings, or by their being hidden by rubble and debris. Once the area is secured, the wounded can display markers or panels, or other field expedients (fatigue jacket or T-shirts) to indicate where they may be found.

c. The anticipated increase in wounds and injuries requires increased supplies of IV fluids. Individual soldiers may carry these fluids to hasten their availability and shorten the time between wounding and initiation of vascular volume replacement.

d. Route markings to the division clearing station and the display of the Geneva Conventions Red Cross at the MTF must be approved by the tactical commander. (Not displaying the Geneva Red Cross can forfeit the protections afforded for both medical personnel and their patients under the Geneva Conventions. Refer to Appendix A and FM 8-10 for additional information.) The location of the MTF must be as accessible as possible, but well separated from fuel and ammunition depots, motor pools, reserve forces, or other lucrative enemy targets, as well as civilian hazards such as gas stations or chemical factories.

e. Patient collecting points, AXPs, BASs, and division clearing stations locations should be preplanned arid in relatively secure areas accessible to both air and ground ambulances. The location of these points should be indicated on the medical overlay to the OPLAN.

f. The medical company, in establishing the division clearing station, uses only the minimum number of resources required to successfully accomplish the mission. Suitable permanent facilities within the urban area may be used to house the MTF, if available.

NOTE

Construction standards vary between locations. Engineer personnel should inspect and upgrade local facilities prior to use as a medical facility.

g. For additional information on medical evacuation in MOUT, refer to FM 8-10-6.

5-8. Army Special Operations Forces

Combat health support for Army Special Operations Forces (ARSOF) is usually accomplished by unit-level organic CHS resources, special operations support battalion (SOSB) assets, and the theater Army medical command. A combination of organic, DS, and GS resources are required to effectively accomplish the CHS mission. Army Special Operations Forces often operate far removed from conventional CHS and must be more self-reliant and sustaining than conventional forces. Special Forces medical personnel receive enhanced medical training above that provided for a combat medic. The Special Operations Forces (SOF) medic is trained as an independent care practitioner and is qualified to provide ATM to combat casualties. When deployed on independent missions, the two SF medics are the sole source of medical care for the operational detachment and the indigenous forces that the detachment supports. When not deployed, the ARSOF depends upon the conventional CHS system for support.

a. The medical company would normally provide CHS on an area basis for those ARSOF operating within its AO. Due to the security classification of particular ARSOF missions, the medical company may be required to ensure that medical personnel selected to treat ARSOF patients have appropriate security clearances.

b. Due to the clandestine and covert nature of many ARSOF missions, conventional CHS resources may not be able to be used to support deployed ARSOF. For example, conventional ground and air ambulances cannot be used to evacuate sick, injured, or wounded ARSOF from covert operations as their use would compromise the ARSOF mission.

c. Although augmentation of ARSOF medical resources may be required for a number of types of missions, the most likely mission where medical company resources would be employed in DS or GS is the foreign internal defense mission.

d. For additional information on support of ARSOF, refer to Appendix M, FM 8-10-6, and FM 8-42.

APPENDIX A

GENEVA CONVENTIONS

A-1. General

a. The conduct of armed hostilities on land is regulated by both written and unwritten law. This law of land warfare is derived from two principal sources—

- Practiced and accepted customs.
- Lawmaking treaties, such as the Hague and Geneva Conventions.

b. The rights and duties set forth in these sources are part of the supreme law of the land; a violation of any one of them is a serious offense.

c. An in-depth discussion of the provisions applicable to medical units and personnel is provided in FM 8-10 and FM 27-10.

A-2. Distinctive Markings and Camouflage of Medical Facilities and Evacuation Platforms

This paragraph implements STANAG 2027 and QSTAG 512.

a. All US medical facilities and units, except veterinary, display the distinctive flag of the Geneva Conventions. This flag consists of a red cross on a white background. It is displayed over the unit or facility and in other places as necessary to adequately identify the unit or facility as medical.

This paragraph implements STANAG 2931.

b. Camouflage of medical facilities (medical units, medical vehicles, and medical aircraft on the ground) is authorized when the lack of camouflage might compromise the tactical operation. If the failure to camouflage endangers or compromises tactical operations, the camouflage of medical facilities may be ordered by a NATO commander of at least brigade level or equivalent. Such an order is to be temporary and local in nature and is countermanded as soon as circumstances permit. It is not envisioned that large, fixed medical facilities will be camouflaged.

NOTE

As used in this context, camouflage means to cover up or remove the emblem. The black cross on an olive background is not a recognized emblem of the Geneva Conventions.

A-3. Self-Defense and Defense of Patients

a. When engaging in CHS operations, medical personnel are entitled to defend themselves and their patients. They are only permitted to use individual small arms.

b. Medical personnel are only permitted to fire when they or their patients are threatened with attack by the enemy. Self-defense by medical personnel or the defense of their patients is always permitted.

A-4. Enemy Prisoners of War

a. Sick, injured, or wounded EPW are treated and evacuated through medical channels, but are physically segregated from US or allied patients. The EPW patient is evacuated from the CZ as soon as his medical condition permits.

b. Personnel resources to guard EPW patients are provided by the echelon commander. Medical personnel DO NOT guard EPW patients.

A-5. Compliance with the Geneva Conventions

a. As the US is a signatory to the Geneva Conventions, all medical personnel should thoroughly understand the provisions that apply to CHS activities. Violation of these Conventions can result in the loss of the protection afforded by them or prosecution. Medical personnel should inform the tactical commander of the consequences of violating the provisions of these Conventions.

b. The following acts are inconsistent with an individual or facility claiming protected status under the Geneva Conventions:

- Medical personnel are used to man or help man the perimeter of nonmedical facilities, such as unit trains, logistics areas, or base clusters.
- Medical personnel are used to man any offensive-type weapons or weapons systems.
- Medical personnel are ordered to engage enemy forces other than in self-defense or in the defense of patients and MTFs.
- Crew-served weapons are mounted on a medical vehicle.
- Mines or booby traps are placed in and around medical units and facilities.

Hand grenades, light antitank weapons, grenade launchers, or any weapons other than rifles and pistols are issued to a medical unit or its personnel.

- The site of a medical unit is used as an observation post, a fuel dump, or an ammunition storage site.

c. Possible consequences of violations

- Loss of protected status for the medical unit and personnel.
- Medical facilities attacked and destroyed by the enemy.
- Medical personnel being considered PWs rather than retained persons when captured.
- Combat health support capabilities are decremented.
- Prosecution for violations of the law of war.

d. 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, or severity of wounds.
- Allowing the interrogation of enemy wounded or sick even though medically contraindicated.
- Allowing anyone to kill, torture, mistreat, or in anyway harm a wounded or sick enemy soldier.
- Marking nonmedical unit facilities and vehicles with the distinctive emblem or making any other unlawful use of this emblem.
- Using medical vehicles marked with distinctive Geneva emblem for transporting nonmedical troops and equipment and supplies.
- Using a medical vehicle as a tactical operations center (TOC).

e. Possible consequences of violations described in *d* above are—

- Criminal prosecution for war crimes.
- Medical personnel being considered PWs rather than retained persons when captured.

APPENDIX B

COMBAT HEALTH SUPPORT PLANNING

Section I. COMBAT HEALTH SUPPORT ESTIMATE

B-1. General

a. The staff prepares estimates on their areas of expertise to assist the commander in the decision-making process. The staff estimate consists of significant facts, events, and conclusions based on current or anticipated situations and recommendations on how available resources can best be used. These recommendations are used by the commander to—

- Identify and eliminate from consideration the courses of action (COAs) that are not feasible.
- Select the best COAs for further analysis.

b. Adequate plans hinge on early and continuing estimates by staff officers. Failure to make these estimates may lead to errors and omissions in the development of a COA.

c. Regardless of the level of command, the military planning process remains unchanged; however, the level of detail and the means of communicating (verbal or written) will differ. At the medical company level many procedures are already set forth in TSOPs, thereby effectively limiting the level of detailed input required for preparation of the estimate. Although the level of detailed information contained in this appendix is considerable, it is provided for illustrative and educational purposes. In the medical company situation, for example, the CHS estimate for medical company operations may be verbal since TSOPs cover routine activities; however, the FSMC commander may be required to provide a formal written estimate to the FSB support operations for inclusion in the FSB estimate. Additionally, the FSMC commander is dual-hatted as the brigade surgeon and may be required to provide formal written input for inclusion in the brigade estimate.

d. For additional information on the CHS estimate, refer to FM 8-42 and FM 8-55.

B-2. Responsibilities

After the commander provides his planning guidance, the surgeon should prepare estimates of requirements and descriptions of projects to be undertaken for establishing adequate CHS to support the mission. The surgeon makes a CHS estimate that may stand alone or that may be incorporated into the personnel estimate. The estimate forms the basis for the subsequent CHS plan. The estimate is a logical and orderly examination of all the factors affecting the accomplishment of the mission to determine the most suitable COA. All of the significant CHS possibilities that can affect the accomplishment of the tactical commander's mission must be considered. The CHS estimate, along with estimates of the other individual staff members, is used by the commander in preparing his own estimate. It provides him with information on which to base his selection of the best COA. This decision is then included in the operational and logistics support plans.

B-3. Format for the Estimate

a. A sample format for a CHS estimate is presented in paragraph B-4. This format is applicable to any echelon of command and can be used under any operational condition. It is lengthy and includes many more details than may be needed in some situations. Depending on the situation and the unit for which the estimate is being completed, organic capability of certain functional areas may not exist. The estimate, however, must include these areas, as support or augmentation from corps assets may be required, such as CSC and veterinary services. Each CHS planner must tailor the estimate to meet his needs. The estimate is a continuous process; as the battle continues, new factors and COAs are developed and impact on the estimate.

b. Staff estimates may be presented orally or in writing. Often only the staff officer's conclusions or recommendations are presented to the commander.

c. Depending on the level of command, separate estimates may also be made for the dental, PVNTMED, veterinary, and CSC functional areas. For information on these estimates, refer to FM 8-55. For additional information on the unique aspects of planning for medical operations in peacetime and conflict, refer to FM 8-42.

d. The format for the estimate should be considered more as stool to assist the planner than as a rigid format that might complicate the task. Examples of information which may be required or considered are provided for the different subheadings. They are not to be considered as an all-inclusive listing, but rather as a starting point for consideration.

B-4. Sample Format for the Combat Health Support Estimate

(Classification)

Headquarters
Location
Date, time, and zone

COMBAT HEALTH SUPPORT ESTIMATE OF THE SITUATION

References: *Maps, overlays, charts, or other documents required to understand the estimate. Reference to a map includes the map series number and country or geographic area, if required; sheet number and name, if required; and edition and scale.*

(Classification)

(Classification)

1. MISSION *(Statement of the overall CHS mission.)*

2. SITUATION AND CONSIDERATIONS *(Consists of facts, assumptions, and deductions that can affect the successful support of an operation.)*

a. Enemy Situation. *(Includes such issues as the enemy's ability to interfere with the delivery of CHS, his attitude toward the Geneva Conventions, his ability to inflict casualties [both combat and disease], types of weapons available, and the health status of potential EPW.)*

(1) Strength and disposition. *(Includes information on the numbers and types of enemy forces which will be encountered and on their distribution throughout the battle area. This entry may indicate where weak areas exist in the enemy's defenses.)*

(2) Combat efficiency. *(Includes information on training received by enemy forces, previous battles, degree of fatigue and nutrition, and other factors which may indicate how effective the enemy force may be.)*

(3) Capabilities. *(Includes the conventional warfare capabilities and the potential for use of NBC and DE weapons/devices.)*

(4) Logistics situation. *(The logistics situation provides insight on the enemy's ability to fight a sustained battle and indicates weak areas which may be exploited by friendly forces.)*

(5) *State* of health. *(This is an important issue as it may effect the enemy's will, desire, and ability to continue fighting. It may also provide some insight into the numbers of anticipated EPW and the CHS requirements for this subpopulation. NOTE: Historically, the number of EPW has been underestimated.)*

(6) Weapons and weapons systems. *(Includes the weapons systems which are available and those that could be used to deliver NBC and DE weapons/devices. The types of weapons used may dictate the type and distribution of wounds throughout the battlefield.)*

b. Friendly Situation. *(Includes the tactical plan of the commander, anticipated areas of patient densities, best placement of supporting CHS elements, health of the command, rear operations, and base clusters.)*

(1) Strength and disposition. *(Includes not only US Army troops but sister Services, allies, coalition, and HN forces which must be supported. The disposition throughout the battlefield may indicate the areas of the heaviest patient densities, lines of patient drift, and potential evacuation routes [both ground and air]).*

(Classification)

(Classification)

(2) Combat efficiency. *(Includes training, experience, morale, and recent campaigns.)*

(3) Present and projected operations. *(Includes the current mission and all follow-on missions. This subparagraph can provide information on the potential for augmentation, reinforcement, and/or regeneration. It may also indicate requirements for CSC support after particularly heavy fighting.)*

(4) Logistics situation. *(Includes information on supply/resupply operations [both general and medical], location and hours of establishment/disestablishment of the facility, stockage levels, distribution points, and US and HN medical/nonmedical transportation support availability for patient evacuation.)*

(5) Rear battle plan. *(Includes information on responsibilities and procedures for mass casualty situations and rear area protection operations.)*

(6) Weapons. *(Medical units only have defensive weapons; however, the types of weapons systems being used may dictate the types of wounds, potential injuries, and security.)*

c. Characteristics of the Area of Operations. *(The CHS planner should obtain medical intelligence regarding the AO. This information should be included in the planning process as the medical threat will influence the numbers and types of casualties.)*

(1) Terrain. *(Includes any special equipment requirements needed to conduct the CHS mission, such as mountain climbing equipment; effect on medical evacuation [to include potential landing sites and ambulance turnaround]; and effect on layout of unit resources.)*

(2) Weather. *(Includes its effect on aeromedical and ground evacuation of casualties; care of the wounded in adverse weather conditions, such as extreme cold weather operations; effect on supplies and equipment, such as storage requirements [hot or extreme cold], maintenance requirements, and repair parts usage.)*

(3) Civilian population. *(Includes potential requirements for providing CHS assistance [to include Geneva Conventions requirements or civic action programs]; endemic and epidemic diseases in the population; any rules, regulations, or laws affecting interaction between military and civilian populations; and pertinent information on cultural aspects of the country [to include social, political, religious, and economic considerations]).*

(4) Flora and fauna. *(Includes poisonous reptiles, dangerous animals, disease vectors [such as arthropods], poisonous plants, or other medically significant information [such as medicinal herbs and plants] in the AO.)*

(Classification)

(Classification)

(5) Local resources. *(Includes information on any significant assets which are available to the military force such as buildings, food sources, water sources, potential repair and maintenance facilities and capabilities, POL, hospitals, and clinics.)*

(6) Other. *(Any significant information not covered previously, such as language requirements.)*

d. Strengths to be Supported. *(Includes the different categories of personnel described below. Emphasis should be placed on accurately forecasting the numbers of refugees, displaced persons, and EPW that will require support. Large numbers of these personnel can severely strain the CHS capabilities [in particular the PVNTMED and treatment arenas]).*

(1) Army.

(2) Navy.

(3) Air Force.

(4) Marines.

(5) Allied forces.

[6) Coalition forces.

(7) Enemy prisoners of war. *(Every effort must be made to arrive at a realistic forecast of the EPW population. Traditionally, the US Forces have underestimated the number of enemy soldiers who will be captured or who will surrender. By underestimating the EPW population, adequate medical supplies and equipment have not been available when needed and have, therefore, adversely affected the delivery of health care.)*

(8) Indigenous civilians.

(9) Detainees *(Enemy medical personnel are not considered EPW and should be identified as soon as possible to assist in providing medical care for the EPW patients.)*

(10) Internees.

(11) Others. *(Includes refugees from battle areas.)*

e. Health of the Command. *(Consists of the following factors which indicate command and medical measures that should be taken into consideration prior to each operation.)*

(Classification)

(Classification)

(1) Acclimatization of troops. *(Includes requirements fo racclimatization of newly arriving troops or for forecasted operations, such as mountain operations.)*

(2) Presence of disease. *(Includes the endemic diseases which are not at a clinically significant level in the native population. Deploying forces may not be immune and the incidence of endemic disease cases may increase with a disruption of services [such as sanitation and garbage disposal].)*

(3) Status of immunizations. *(US Forces should receive all appropriate immunizations prior to deployment.)*

(4) Status of nutrition.

(5) Clothing and equipment. *(Includes consideration for specialized clothing and equipment [such as jungle fatigues, bed netting, parkas, and mountain climbing equipment]. When deploying to desert environments, both hot and cold weather clothing should be brought.)*

(6) Fatigue. *(The fatigue factor must be monitored since fatigue can contribute to lowering an individual's resistance to disease and may lead to combat stress reactions.)*

(7) Morale. *(It is important to the morale of a soldier that he know that medical attention is readily available if he is wounded.)*

(8) Status of training. *(Includes soldier training first-aid training, and MOS- and, mission-specific training.)*

(9) Other, as appropriate. *(This can include water .discipline programs or other PVNTMED measures and programs.)*

f. Assumptions. *(Assumptions may be required as a basis for initiating planning or preparing the estimate. Assumptions are modified as factual data and specific planning guidance becomes available.)*

g. Special Factors. *(Mention items of special importance in the particular operation to be supported such as the unique conditions to be encountered in NBC warfare, or the impact that patients suffering from combat stress will have on the CHS system.)*

3. COMBAT HEALTH SUPPORT ANALYSIS

a. Patient Estimates. *(Indicate rates and numbers by types of units or divisions.)*

(Classification)

(Classification)

(1) Number of patients anticipated. *(Includes all categories of patients from the supported population.)*

(2) Distribution within the AO (space). *(The dispersion of troops throughout the battlefield will affect patient densities, areas requiring augmentation or reinforcement, and the projected patient work loads.)*

(3) Distribution in time during the operation (evacuation time). *(Includes the establishment of patient collecting points, AXPs, BASs, and division clearing stations based on the crossing of phase lines or other predetermined events.)*

(4) Areas of patient density. *(Heaviest areas of patient density will normally be in the MBA.)*

(5) Possible mass casualty situation. *(Includes establishing a triage point, coordinating for the use and augmentation of nonmedical vehicles to assist in transporting casualties, and establishing a decontamination station [augmented with nonmedical personnel to perform patient decontamination], if required.)*

(6) Lines of patient drift and evacuation. *(Includes those areas where terrain features canalize ambulatory casualties.)*

b. Support Requirements.

(1) Medical evacuation and regulating. *(Includes resources available, limitations, and requirements for using nonmedical transportation assets; procedures for requesting a mission; procedures for conducting medical evacuation missions during radio silence conditions; and preparation of overlays or strip maps.)*

(2) Hospitalization. *(Includes requirements for a MASH in the division rear and for CSHs or specialized teams.)*

(3) Health service logistics. *(Includes blood management; supply, equipment, optical fabrication, maintenance, and medical repair parts requirements; location of supply facility; and emergency resupply requirements, procedures, and deliuery.)*

(4) Medical laboratory services. *(Includes information on organic capabilities of Echelons III and IV hospital laboratory support and supporting area medical laboratory, and how to obtain these services, if required.)*

(Classification)

(Classification)

(5) DentaI services. *(Includes procedures for obtaining dental support above the organic capability.)*

(6) Veterinary services. *(Includes information on obtaining veterinary support for food inspection and animal care.)*

(7) Preventive medicine and sanitation. *(Includes PVNTMED measures and programs, support requirements for EPW, civilian, and other nonmilitary populations, unit field sanitation teams, and dining facility inspections.)*

(8) Combat stress control. *(Includes support requirements and augmentation, if required.)*

(9) Command, control, communications, computers, and intelligence. *(Includes information on attachments, OPCON, or other control means for augmentation or reinforcement; SOIs; and all other C4I activities.)*

(10) Others, as appropriate. *(Includes topics such as medical regulating procedures or requirements, general supply procedures and support requirements; and nonmedical personnel required to establish a patient decontamination station.)*

c. Resources Available. *(Consider all sources available within the AO.)*

(1) Organic medical units and personnel. *(Includes US, ally, coalition, and HN forces.)*

(2) Attached medical units and personnel.

(3) Supporting medical units.

(4) Civilian public health capabilities and resources. *(Civil affairs personnel are responsible for obtaining HN support.)*

(5) Enemy prisoners of war medical personnel.

(6) Medical supplies and equipment. *(Includes other services, allies, coalition forces, or HN capabilities.)*

(7) Medical troop ceiling.

(Classification)

(Classification)

d. Courses of Action. *(As a result of the above considerations and analysis, determine and list all logical COAs which will support the tactical commander's OPLAN and accomplish the CHS mission. Consider all TSOPs, policies, and procedures in effect. Courses of action are expressed in terms of* ***what, when, where, how,*** *and* ***why.)***

4. EVALUATION AND COMPARISON OF COURSES OF ACTION

a. Compare the probable outcome of each COA to determine which one offers the best chance of success. This may be done in two steps:

(1) Determine and state those anticipated difficulties or difficulty patterns which will have a different effect on the COAs listed.

(2) Evaluate each COA against each significant difficulty or difficulty pattern to determine the strengths and weaknesses inherent in each.

b. Compare all COAs listed in terms of significant advantages and disadvantages, or in terms of the major considerations that emerged during the above evaluation.

5. CONCLUSIONS

a. Indicate whether the mission set forth in paragraph 1 can (cannot) be supported.

b. Indicate which COA can best be supported from the CHS standpoint.

c. List the limitations and deficiencies in the preferred COA that must be brought to the commander's attention.

d. List factors adversely affecting the health of the command.

/s/ _____
Command Surgeon

Annexes (as required)

Distribution:

(Classification)

Section II. COMBAT HEALTH SUPPORT PLAN

B-5. General

Before the CHS estimate is completed, the commander (or surgeon) starts to prepare the CHS plan. As each problem is recognized and solved, a part of the plan is automatically defined. Once the estimate is completed, it defines requirements, identifies sources, and determines policies and procedures.

B-6. Format for the Combat Health Support Plan

(Classification)

Copies _____ of _____ copies
Headquarters
Location
Date, time, and zone

References: *Maps, ouerlays, charts, or other documents required to understand the plan. Reference to a map includes the map series number and country or geographic area, if required; sheet number and name, if required; and edition and scale.*

Time Zone Used Throughout the Plan: _____ *(Included only if used as the initial plan, or if a major organization is to be affected.)*

Task Organization: Annex A (Task Organization) *(Task organization may appear here, in paragraph 3, or in an annex.)*

1. SITUATION *(Provide information essential to understanding the plan.)*

a. Enemy Forces. *(Emphasis on capabilities bearing on the plan.)*

b. Friendly Forces. *(Emphasis on CHS functions and responsibilities for higher headquarters and adjacent units.)*

c. Attachments and Detachments. *(May be published as an annex.)*

d. Assumptions. *(Minimum required fbr planning purposes.)*

2. MISSION *(Statement of overall CHS.)*

(Classification)

(Classification)

3. EXECUTION

a. Surgeon's Concept of Support. *(First lettered subparagraph provides a concise overview of planned CHS operations.)*

b. *(The second lettered paragraph identifies the major CHS control headquarters and lists the tasks /missions assigned.)*

c. *(The third and subsequent lettered paragraphs identify the remaining medical units in turn and list their respective tasks/missions.)*

d. *(The next to the last lettered subparagraph discusses the evacuation/holding policy by phases of the operation.)*

e. Coordinating Instructions. *(The final lettered subparagraph contains any coordinating instructions that may be appropriate to ensure continuity in CHS.)*

4. SERVICE SUPPORT

a. Supply. *(Refer to the TSOP or another annex if they provide sufficient information.)*

(1) General supply. *(Provide special instructions applicable to medical units, such as additional requirements for potable water for patient care.)*

(2) Medical supply. *(Provide special procedures applicable to this operation.)*

(a) Requirements. *(To sustain supported forces; this includes blood management.)*

(b) Procurement. *(Provide detailed information on resupply and stockage levels.)*

(c) Storage. *(Provide any specific equipment requirements, such as refrigerators.)*

(d) Distribution. *(Include method of distribution and any limitations and restrictions, as well as transportation requirements.)*

(3) Medical supply installations. *(Give the locations, mission, hours of opening and closing, and troops supported for each health service logistics installation. [In the division AO, this includes the DMSO.] An overlay may also be used for clarity.)*

(Classification)

(Classification)

(4) Salvage of medical equipment and supplies. *(Note* that *medical equipment and supplies are afforded protection under the provisions of the Geneva Conventions and cannot be intentionally destroyed. If they cannot be taken with the force, they must be abandoned [refer to FM 8-l0].)*

(5) Captured enemy medical supplies and equipment. *(Note that the disposition of these supplies and equipment is also governed by the provisions of the Geneva Conventions. They can be used to treat EPW patients.)*

(6) Civilian medical supplies and equipment. *(Include availability, compatibility, and maintenance support requirements.)*

(7) Other health service logistics matters.

b. Transportation and Movements. *(Include medical use of various transportation means.)*

(1) Ground.

(2) Air (Army air).

(3) Air (USAF).

(4) Rail.

(5) Water (inland and/or sea).

(6) Movement control and traffic regulation. *(Include designation of medical evacuation routes and air corridors.)*

c. Services.

(1) Services to medical units and facilities. *(Include information on the following services: laundry, bath, mortuary affairs [MA], utilities, fire fighting, construction, and real estate.)*

(2) Medical equipment maintenance. *(Include in separate subparagraphs the location, mission, and hours of operation for medical maintenance and/or optical repair teams, unless included as attachments to health service logistics units.)*

(3) Labor. *(Include policies on the use of civilian or other personnel for labor. Comply with existing agreements, arrangements, or policies.)*

(Classification)

(Classification)

(4) General maintenance. *(Include priority of maintenance, location of facilities, and collecting points.)*

5. MEDICAL EVACUATION, TREATMENT, AND OTHER HEALTH SERVICES

a. Medical Evacuation.

(1) Evacuation requirements for Army, Navy, USAF, allied and coalition forces, civilians, and refugees, detainees, and EPW. *(Note that guards for EPW are nonmedical personnel selected by the echelon commander.)*

(2) Requirements. *(List requirements, including percentage to be evacuated by air or sea transportation means.)*

(3) Units. *(Give location, mission, and attachment of evacuation elements, such as forward-sited corps ground ambulances or forward-sited air ambulances.)*

b. Treatment.

(1) Policies. *(State treatment policies to include civilians, refugees, and EPW.)*

(2) Units. *(Give the location and the establishing and disestablishing date and time [opening and closing] at new or old location for all MTFs. Each MTF, such* as *division clearing station or ACR medical company, should be listed in a separate paragraph.)*

c. Other Health Services. *(Include the provision of the remaining CHS functions: laboratory services, dental services, PVNTMED and sanitation, CSC, veterinary services, and required C4I)*

6. MISCELLANEOUS. *(Address areas of support not previously mentioned which may be required or needed for the execution of the CHS mission, such as CP locations, SOI, medical intelligence, and international or HN support agreements affecting the delivery of CHS.)*

/s/_____
(Commander/Command Surgeon)

Appendixes
Distribution:

(Classification)

APPENDIX C

MASS CASUALTY SITUATIONS

C-1. General

a. Mass casualty situations occur when the number of casualties exceeds the available medical capability to rapidly treat and evacuate them. Therefore, the actual number of casualties required before a mass casualty situation is declared varies from situation to situation depending upon the availability of CHS resources. Technically, a mass casualty situation occurs if a combat medic has more than one seriously injured soldier to be cared for at one time. A mass casualty situation could occur from incidence such as an ambush of a platoon where 18 soldiers are wounded, an accident involving a troop carrier where 30 soldiers are hurt, or the use of chemical weapons or the detonation of a nuclear device where hundreds of soldiers are injured. To take this one step further, if the troop carrier accident occurs in the CZ in the vicinity of the medical company, amass casualty situation has occurred (as this number of casualties would overwhelm the resources of the medical company). However, if the same accident occurred in the COMMZ in the vicinity of a GH, a FH, and an ASMC, the patients could be sent to three different MTFs for treatment *(MINIMAL* to the ASMC; *DELAYED* to the FH; and *IMMEDIATE* and *EXPECTANT* to the GH). By having the medical resources of the three MTFs available, the impact of the mass casualty situation is effectively reduced.

b. This appendix provides a detailed description of how to establish a mass casualty station. Due to the complexity of the mass casualty station and the number of personnel involved, the entire station may not be able to be setup at the medical company level. The CHS planner should, therefore, modify the station based on the specific unit's needs.

c. This station is not practical at the BAS level. When faced with a mass casualty situation at the BAS level, the important aspects for the management of the situation are establishing control, organizing activities, and effectively sorting patients. Effective sorting will enhance the physician's ability to maximize the use of his time and resources on those patients who would receive the most benefit from the intervention.

C-2. Mass Casualty Management

Mass casualty situations are normally chaotic and may include—

- Casualties in various stages of pain and distress.
- Casualties who may have single wounds, multiple wounds, or wounds from combined sources, such as thermal and blast injuries in a nuclear detonation.
- Medical conditions which vary from relatively minor injuries to severe, life-threatening trauma.
- New casualties arriving before the patients already on hand are treated.
- Personnel who are just dazed wandering throughout the area disrupting operations.

- Uninjured personnel looking for a buddy or, when civilian casualties are being treated, relatives looking for a loved one.

a. Planning. To ensure efficient management of mass casualty situations, the CHS planner must develop an effective plan and then rehearse it on a periodic schedule.

(1) In mass casualty situations, CHS resources are scarce. The plan, therefore, must be comprehensive and efficiently use what CHS resources are available.

(2) Planning considerations include—

- Establishing a control element to coordinate ongoing activities and release information updates.
- Securing the area and limiting access to nonessential personnel.
- Establishing communications between areas and to higher headquarters, if possible.
- Establishing the triage, treatment, and holding areas.
- Establishing a traffic pattern which provides for the smooth flow of patients and vehicles.
- Marking routes to the different areas.
- Orienting all personnel (medical and nonmedical) operating the mass casualty station to the types of markings used, layout, and routes to be followed during the mass casualty operation.
- Organizing medical personnel for staffing of the different areas.
- Organizing nonmedical personnel for litter bearer duties, messengers, restocking supplies, and other nonmedical functions.
- Ensuring an adequate blood supply and/or other Class VIII items are available or on order.
- Providing timely evacuation.

b. Rehearsal and Training.

(1) The response to a mass casualty situation must be rehearsed. By conducting rehearsals, unit personnel become familiar with where they should report and with what their duties should entail.

(2) Nonmedical personnel assigned to the unit should be trained in the proper techniques for loading, carrying, and unloading litters. This training will enhance their ability to peform the task of transporting patients correctly; using the proper techniques will reduce fatigue and the risk of injury. (Refer to FM 8-10-6 for additional information.)

C-3. Triage Categories

Triage is the medical sorting of patients according to the type and seriousness of the injury, likelihood of survival, and the establishment of priorities for treatment and evacuation. (Evacuation priorities are discussed in paragraph 1-10.) Triage ensures that medical resources are used to provide care for the greatest benefit to the largest number of casualties.

a. Triage of Conventinal Wounds and Injuries.

(1) Triage (or sorting) is the process of prioritizing or rank ordering wounded soldiers on the basis of the individual needs for surgical intervention. The likely outcome of the individual casualty must be factored into the decision process prior to the commitment of limited medical resources, Casualties are generally sorted into four categories (or priorities). These priority groupings are discussed in decreasing order of surgical urgency.

(2) The four triage categories of conventional injuries are—

(a) *IMMMEDIATE.* This category is for the patient whose condition demands immediate, resuscitative treatment. An example of this treatment is the control of hemorrhage from an extremity. Generally, the procedures used are short in duration and economical in terms of medical resources. (Approximately 20 percent of the casualties are normally in this category.)

(b) DELAYED. Casualties in the delayed category can tolerate delay prior to operative intervention without unduly compromising the likelihood of a successful outcome. When medical resources are overwhelmed, soldiers in this category are held until the *IMMEDIATE* cases are cared for. (Approximately 20 percent of the casualties are normally in this category.) An example of this category is stable abdominal wounds with probable viscera] injury, but no significant hemorrhage. These cases may go unoperated for 8 to 10 hours, after which there is a direct relationship between time lapsed and the advent of complications. Other examples include—

- Soft tissue wounds requiring debridement.
- Maxillofacial wounds without airway compromise.
- Vascular injuries with adequate collateral circulation.
- Genitourinary tract disruption.
- Fractures requiring operative manipulation, debridement, and external fixation.

- Eye and central nervous system (CNS) injuries.

(c) MINIMAL (or AMBULATORY). This category is comprised of casualties with wounds that are so superficial that they require no more than cleansing, minimal debridement under local anesthesia, administration of tetanus toxoid, and first-aid type dressings. They must be rapidly directed away from the triage area to uncongest.ed areas where first-aid and nonspecialty medical personnel are available. (Approximately 40 percent of the casualties are in this category and most of them are ambulatory.) An example is burns of less than 15 percent total body surface area (TBSA), with the exception of those involving the face, hands, and genitalia. Other examples include—

- Upper extremity fractures.
- Sprains.
- Abrasions.
- Behavioral disorders or other obvious psychiatric disturbances.

(d) EXPECTANT. Casualties in the expectant category have wounds that are so extensive that even if they were the sole casualty and had the benefit of optimal medical resources application, their survival would be very unlikely. During a mass casualty situation, this type of casualty would require an unjustifiable expenditure of limited resources that are more wisely applied to several other more salvageable soldiers. The *EXPECTANT* casualties should be separated from the view of other casualties; however, they should not be abandoned. Above all, one attempts to make them comfortable by whatever means necessary and to provide attendance by a minimal, but competent staff. (Approximatey 20 percent of the casualties are normally in this category.) Examples of this category include—

- Unresponsive patients with penetrating head wounds.
- High spinal cord injuries.
- Mutilating explosive wounds involving multiple anatomical sites and organs.
- Second- and third-degree burns in excess of 60 percent TBSA.
- Profound shock with multiple injuries.
- Agonal respiration.

b. Triage of Nuclear-Generated Patients. There are four triage categories for patients generated in a nuclear detonation. These categories are: Immediate Treatment Group (Tl); Delayed Treatment Group (T2); Minimal Treatment Group (T3); and Expectant Treatment (T4). A discussion of these triage categories is contained in paragraph 5-6.

c. Triage of Neuropsychiatric Casualties. These casualties are usually triaged as *MINIMAL* and should be quickly separated from the wounded patients. Within the MH discipline, the triage categories for psychiatric disorders are contained in FM 8-51.

C-4. Control Element

a. The MTF commander designates the individuals who will staff the control element. This element is responsible for—

- Implementing the plan.
- Establishing security.
- Limiting access to the area.
- Monitoring ongoing activities.
- Coordinating medical resource augmentation.
- Providing informational updates as required.

b. Communications with the triage, treatment, and holding areas are essential to accomplish the coordination and control of ongoing activities. If telephone/radio communications are not available, a messenger system is employed using some of the nonmedical personnel for this function.

C-5. Establishing Triage, Treatment, and Holding Areas

Depending on the tactical situation or the location of the mass casualty, the triage, treatment, and holding areas may be established in the existing MTF, an available shelter, or outdoors.

a. Using the Existing Medical Treatment Facility.

(1) When the existing MTF is used, the triage area should afford easy access for incoming litter bearer teams, ground and air ambulances, and nonmedical transportation assets. Sufficient space must be allocated for ambulance turnaround to ensure a smooth traffic flow. These requirements are normally met with the established layout of the MTF; however, depending upon the number of casualties being received, additional space may be required to accommodate the patient flow. Litter stands should be established (such as sawhorses supporting litters) for placing patients to be triaged. At a minimum, two should be established with the triage officer between the stations. Resuscitation and vascular volume replacement are initiated in the triage area, if required. The flow of wounded into the triage area must be controlled. An increase in the noise level and confusion can result if too many casualties are brought into the triage area atone time. These factors can adversely impact on the ability of the medical personnel to thoroughly evaluate and prioritize each casualty.

(2) Specific areas within the MTF are designated for each of the triage categories, personnel pools, and control elements. Additionally, internal traffic routes to the x-ray area, the laboratory area, and the preoperative, recovery, and holding areas (if augmented by a surgical detachment or if the MTF has an organic surgical squad) must be identified. Surgical procedures are limited to those required to save life and stabilize nontransportable patients for evacuation.

- Ideally, holding areas for each of the four triage categories should be established. Each area should be clearly identified and the route to that area marked. Marking can be accomplished with the use of different color panels or a numbering system. Each area can be designated as a specific color or number and the route to that area marked accordingly. The marking system used should function during times of good visibility as well as times of limited visibility (such as at night or during blackout conditions). (Materials used for marking purposes should be prepared when the mass casualty plan is developed and stored until required for use.)

- Two personnel pool areas should be designated; one for medical personnel and one for nonmedical personnel. The MTF commander should designate those individuals who will supervise the management of these pools. As unit personnel complete tasks, shifts, or other duties, they report back to the appropriate personnel pool area. Using this system ensures the efficient use of available resources and permits the reallocation of resources as requirements change. *MINIMAL* category patients can be used as an additional manpower pool while awaiting transportation back to their units. They, with minimal training or briefing, can act as runners, litter bearers, or guides to free up medical personnel so they can attend to medical tasks.

- The control element should have access to all areas as required.

- The internal communications system should be modified as required to provide communications capability to the major areas within the facility; if a communications systems does riot exist, a messenger system is established.

(3) A sample layout of a mass casualty station is provided in Figure C-1. This sample includes surgical augmentation. Each mass casualty situation will be unique as to the number and types of casualties and the medical resources available to treat them. This mass casualty station should be modified to fit the realities of a specific mass casualty situation.

b. Using an Available Structure. A mass casualty situation may occur in an area away from the MTF. It may not be practical or possible to evacuate or transport the casualties to the MTF location. If a structure not previously used for an MTF is available, it may be used. The requirements for the establishment of the area are the same as when an existing MTF is used; however, the actual layout will differ depending on the structure used. Caution must be used to develop a traffic pattern which will avoid congestion and the crisscrossing of internal paths and will expedite patient flow.

c. Establishing the Mass Casualty Station Outdoors. In some instances, a mass casualty station may be required to be established outdoors. When this occurs, efficient use of overhead cover and available shade is essential. Unless inclement weather occurs, the triage area and the *MINIMAL* treatment area remain outdoors. The triage area must be accessible to incoming vehicles and provide

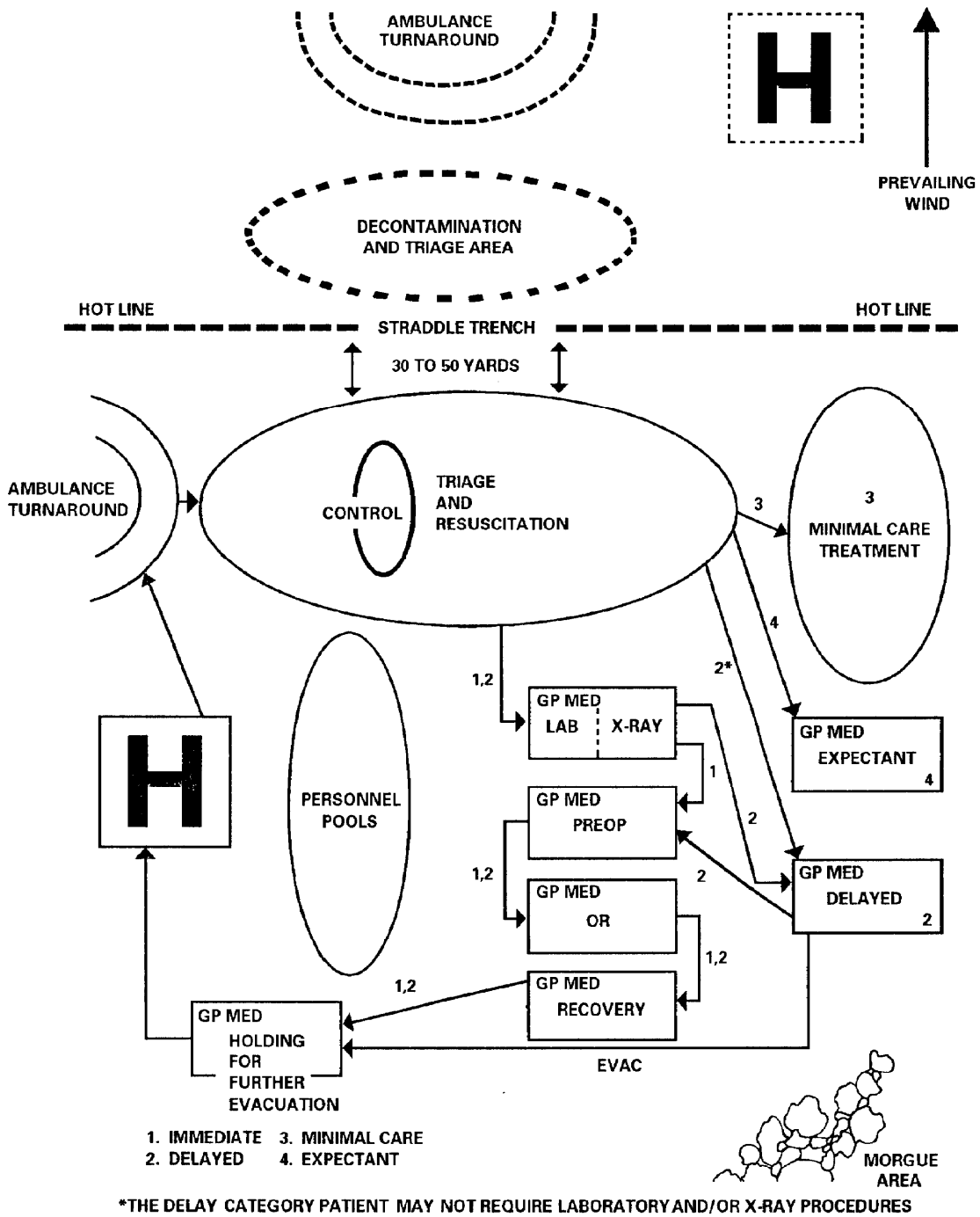


Figure C-1. Mass casualty station with triage and minimal care areas established outdoors.

sufficient, space for the turnaround of the vehicles. Also, it should not be established too far away from the treatment areas, as the distance will place an additional burden on the litter bearers. Once triaged, patients should be brought inside an improvised shelter as soon as possible. The use of improvised shelters or the use of cover (such as caves) may be required until more appropriate shelters can be obtained or established.

C-6. Patient Accountability

During mass casualty situations, medical personnel do not have the time to fully complete the FMC with the required patient identification information. A numbering system can be used to expedite this process. The patient can be identified by a number and this same number is then entered on his FMC. The FMC is attached to the individual's clothing. The FMC is used to record the treatment and medications that the patient receives. When the mass casualty situation begins to resolve, and as time permits, medical personnel obtain the necessary information to complete the FMC.

C-7. Medical Evacuation

When mass casualty situations occur, the number of casualties will normally overwhelm the available medical evacuation assets. Therefore, the mass casualty plan should include provisions for the use of nonmedical vehicles and aircraft. When at all possible, casualties who have sustained more severe wounds should be evacuated in medical ground and air ambulances. These soldiers will benefit most from the provision of en route medical care. The lightly wounded and stable casualties and those suffering from BF can be transported by nonmedical transportation assets without serious risk of worsening their medical prognosis.

C-8. Contaminated Patients

Initial triage, EMT, and decontamination are accomplished on the dirty side of the hotline. Life-sustaining care is rendered, as required, without regard to NBC contamination. Secondary triage, ATM, and patient disposition are accomplished on the clean side of the hotline. When treatment must be provided in a contaminated environment, outside of the CPS, the level of care may be reduced to first-aid procedures because the treaters are in MOPP Level 4.

C-9. Disposition of Remains

In a mass casualty situation, there will be casualties who have died before reaching the triage area (dead on arrival [DOAJ) or who die of wounds (DOW) before they can be stabilized and further evacuated. A temporary morgue area should be established away from and out of sight of the triage and treatment areas. (This morgue area is for use only by the MTF for those patients who have died. It is not a temporary collecting point for deceased personnel from other units.) This area could be established behind a natural barrier, such as a stand of trees, or it can be set off by using tentage or tarpaulins. This

area is not an actual morgue as it has neither the required equipment nor is it staffed; it is only a holding area. The FMC must be completed on each of the deceased personnel, and it must be signed by a physician. The remains are held until MA support can be obtained.

APPENDIX D

MEDICAL EVACUATION REQUEST PROCEDURES

D-1. General

a. This appendix provides the format for a nonmedical unit requesting medical evacuation support from a medical element. This same format may be used by medical units depending on the procedures set forth in the TSOP. The medical company has organic ground ambulances available and is often augmented with both ground and air evacuation resources from the corps/COMMZ medical evacuation battalion.

b. For information on medical evacuation precedences, refer to paragraph 1-10 *a* (3).

c. For information concerning the medical evacuation request used in peacetime, refer to FM 8-10-6.

d. For a sample medical evacuation request/after action report, refer to Appendix F.

D-2. Medical Company Evacuation Support

The medical company evacuates patients further to the rear from Echelon I facilities; it also evacuates casualties on an area basis from units without organic evacuation resources.

- In the case of evacuating patients from Echelon I facilities, the required information is passed on the dedicated medical operations net.

- In the case of evacuating patients on an area basis, the request originates from the supported unit on the administration/logistics net and the evacuation request format (Table D-1) is used.

- Medical evacuation requests are transmitted using secure means or are encrypted prior to transmission.

D-3. Preparation of the Medical Evacuation Request

Brevity codes must be used in preparing all medical evacuation requests. The authorized codes are provided in Table D-1; they are also provided in the standard SOI. Use of locally devised brevity codes is not authorized. If the unit preparing the request does not have access to secure communications, the request must be prepared in encrypted form.

D-4. Transmission of the Request

The medical evacuation request should be made by the most direct communications means to the medical unit that controls the evacuation assets. The communications means and channels used depend on the situation (organization, communications means available, location on the battlefield, and distance

between units). The primary and alternate channels to be used for requesting medical evacuation support are specified in the unit evacuation plan.

a. Secure Transmissions. Regardless of the type (secure or nonsecure) communications equipment used in transmission, it is necessary to—

- Make contact with the intended receiver.
- Use the call sign and frequency assignments from the SOI.
- Use the proper radio procedures.
- Ensure that transmission time is kept to a minimum (20 to 25 seconds maximum).
- Provide the opening statement: *"I HAVE A MEDEVAC REQUEST."*

b. Receiver Acknowledgment. After the appropriate opening statement is made, the transmitting operator breaks for acknowledgment. Authentication by the receiving or transmitting unit should be done in accordance with the TSOP.

c. Clear Text and Encrypted Transmissions. If secure communications equipment is used in transmission, the request will be transmitted in *CLEAR TEXT*. However, if the communications equipment used in transmission is not secure, the request must be transmitted in *ENCRYPTED FORM* with the exception of the following:

(1) The medical evacuation request line number identifier (Line 1, Line 2, Line 3, and so forth). This information is always transmitted in clear text.

(2) The call sign and suffix (Line 2) which can be transmitted in clear text.

NOTE

When using *DRYAD* Numeral Cipher, the same *"SET"* line is used to encrypt the grid zone letters and the coordinates (Line 1 of the medical evacuation request). To avoid misunderstanding, a statement is made that the grid zone letters are included in the message. This must be accomplished unless the unit's standing operating procedure (SOP) specifies that the *DRYAD* Numeral Cipher is to be used at all times.

d. Letter and Numeral Pronunciation. The letters and numerals that make up the request will be pronounced in accordance with radio procedures. In transmission of the request, the medical evacuation line number identifier will be given followed by the evacuation information (example: Line One. *TANGO PAPA FOUR SIX FIVE THREE SEVEN NINER).*

e. Medical Evacuation Request Line Numbers 1 Through 5. Line numbers 1 through 5 of the request must always be transmitted first. The information enables the evacuation unit to begin the mission and avoids unnecessary delay if the remaining information is not immediately available. The information for Lines 6 through 9 may be transmitted to the evacuation vehicle en route.

f. Monitoring Requirement. After transmission and acknowledgment are accomplished, the transmitting operator must monitor the frequency (Line 2 of the request) to wait for additional instructions or contact from the evacuation vehicle.

Table D-1. Procedures for Information Collection and Medical Evacuation Request Preparation (1 of 3)

LINE	ITEM	EXPLANATION	WHERE/HOW OBTAINED	WHO NORMALLY PROVIDES	REASON
1	Location of Pickup Site	Encrypt the grid coordinates of the pickup site. When using the DRYAD Numeral Cipher, the same "SET" line will be used to encrypt the grid zone letters and the coordinates. To preclude misunderstanding, a statement is made that grid zone letters are included in the message (unless unit SOP specifies its use at all times).	From Map	Unit Leader(s)	Required so evacuation vehicle knows where to pick up patient. Also, so that the unit coordinating the evacuation mission can plan the route for the evacuation vehicle (if the evacuation vehicle must pick up from more than one location).
2	Radio Frequency, Call Sign, and Suffix	Encrypt the frequency of the radio at the pickup site, not a relay frequency. The call sign (and suffix if used) of person to be contacted at the pickup site may be transmitted in the clear.	From SOI	RTO	Required so that evacuation vehicle can contact requesting unit while en route (obtain additional information, or change in situation or directions).
3	Number of Patients by Precedence	Report only applicable information and encrypt the brevity codes. A - URGENT. B - URGENT-SURG. C - PRIORITY. D - ROUTINE. E - CONVENIENCE. If two or more categories must be reported in the same request, insert the word "BREAK" between each category.	From Evaluation of Patient(s)	Medic or Senior Person Present	Required by unit controlling the evacuation vehicles to assist in prioritizing missions.

Table D-1. Procedures for Information Collection and Medical Evacuation Request Preparation (2 of 3)

LINE	ITEM	EXPLANATION	WHERE/HOW OBTAINED	WHO NORMALLY PROVIDES	REASON
4	Special Equipment Required	Encrypt the applicable brevity codes. A - None. B - Hoist. C - Extraction equipment. D - Ventilator.	From Evaluation of Patient/ Situation	Medic or Senior Person Present	Required so that the equipment can be placed on board the evacuation vehicle prior to the start of the mission.
5	Number of Patients by Type	Report only applicable information and encrypt the brevity codes. If requesting MEDEVAC for both types, insert the word "BREAK" between the litter entry and ambulatory entry. L + # of Pnt - Litter A + # of Pnt - Ambulatory (sitting).	From Evaluation of Patient(s)	Medic or Senior Person Present	Required so that the appropriate number of evacuation vehicles may be dispatched to the pickup site. They should be configured to carry the patients requiring evacuation.
6	Security of Pick-up Site (Wartime)	N - No enemy troops in area. P - Possibly enemy troops in area (approach with caution). E - Enemy troops in area (approach with caution). X - Enemy troops in area (armed escort required).	From Evaluation of Situation	Unit Leader	Required to assist the evacuation crew in assessing the situation and determining if assistance is required. More definitive guidance can be furnished the evacuation vehicle while it is en route (specific location of enemy to assist an aircraft in planning its approach).
6	Number and Type of Wound, Injury, or Illness (Peacetime)	Specific information regarding patient wounds by type (gunshot or shrapnel). Report serious bleeding, along with patient blood type, if known.	From Evaluation of Patient(s)	Medic or Senior Person Present	Required to assist evacuation personnel in determining treatment and special equipment needed.
7	Method of Marking Pickup Site	Encrypt the brevity codes. A - Panels. B - Pyrotechnic signal. C - Smoke signal. D - None. E - Other.	Based on Situation and Availability of Materials	Medic or Senior Person Present	Required to assist the evacuation crew in identifying the specific location of the pickup. Note that the color of the panels or smoke should not be transmitted until the evacuation vehicle contacts the unit (just prior to its arrival). For security, the crew should identify the color and the unit verify it.

Table D-1. Procedures for Information Collection and Medical Evacuation Request Preparation (3 of 3)

LINE	ITEM	EXPLANATION	WHERE/HOW OBTAINED	WHO NORMALLY PROVIDES	REASON
8	Patient Nationality and Status	The number of patients in each category need not be transmitted. Encrypt only the applicable brevity codes. A - US military. B - US civilian. C - Non-US military. D - Non-US civilian. E - EPW.	From Evaluation of Patient(s)	Medic or Senior Person Present	Required to assist in planning for destination facilities and need for guards. Unit requesting support should ensure that there is an English speaking representative at the pickup site.
9	NBC Contamination (Wartime)	Include this line only when applicable. Encrypt the applicable brevity codes. N - Nuclear. B - Biological. C - Chemical.	From Situation	Medic or Senior Person Present	Required to assist in planning for the mission. (Determine which evacuation vehicle will accomplish the mission and when it will be accomplished.)
9	Terrain Description (Peacetime)	Include details of terrain features in and around proposed landing site. If possible, describe relationship of site to prominent terrain feature (lake, mountain, tower)	From Area Survey	Personnel At Site	Required to allow evacuation personnel to assess route/avenue of approach into area. Of particular importance if hoist operation is required.

APPENDIX E

TACTICAL STANDING OPERATING PROCEDURE

E-1. General

This appendix provides a sampler TSOP format for a medical company. The information on the clinical aspects of the treatment and evacuation elements can be included in the TSOP or prepared separately as a clinical standing operating procedure (CSOP) (Appendix N). This sample TSOP should not be considered as all-inclusive. However, this information and the unit's mission training plan (MTP) are good starting points for developing the TSOP. It may be supplemented with information and procedures required for operating within a particular command.

E-2. Purpose of the Tactical Standing Operating Procedure

The TSOP prescribes policy, guidance, and procedures for the routine tactical operations of a specific unit. It should cover broad areas of unit operations but be sufficiently detailed to provide newly assigned personnel the guidance required for them to assume their new positions. A TSOP may be modified by TSOPs and OPLANs/OPORDs of higher headquarters. It applies to a specific unit and all subordinate units assigned and attached. Should a TSOP not conform to the TSOP of the higher headquarters, the higher headquarters' TSOP governs. The TSOP should be periodically reviewed and updated as required.

E-3. Format for the Tactical Standing Operating Procedure

a. There is not a standard format for all TSOPs; however, it is recommended that the unit's TSOP follow the format used by its higher headquarters. The TSOP can be divided into sections (functional areas or major operational areas). The TSOP can contain one or more annexes, each of which may have one or more appendixes. The appendixes may each have one or more tabs. Appendixes can be used to provide detailed information on major subdivisions of the annex, and tabs can be used to provide additional information (such as report formats or area layouts) addressed in the appendix.

b. Regardless of the format used, the TSOP should follow a logical sequence in the presentation of material. As a minimum, it should discuss the—

- Chain of command.
- Major functions and staff sections of the unit.
- Operational requirements.
- Required reports.
- Necessary coordination with higher and subordinate elements for mission accomplishment.

- Programs (such as command information, PVNTMED measures, and CSC).
- Other relevant topics.

c. Pagination of the TSOP can be accomplished by starting with page 1 and numbering the remaining pages sequentially. If the TSOP is subdivided into sections, annexes, appendixes, and tabs, a numbering system that clearly identifies the location of the page within the document can be used. Annexes are identified by letters and are listed alphabetically. Appendixes are identified by numbers and arranged sequentially within a particular annex. Tabs are identified by a letter and are listed alphabetically within a specific appendix. After numbering the initial sections using the standard numbering system (sequentially starting with page 1 through to the end of the sections), then beginning with the annexes and their subdivisions, they are numbered as the letter of the annex, the number of the appendix, the letter of the tab, and the page number. For example, page 4 of Annex D is written as "D-4"; page 2 of Appendix 3 to Annex D is written as "D-3-2"; page 5 of Tab A to Appendix 3 of Annex D is written as "D-3-A-5". This system of numbering makes the pages readily identifiable as to their place within the document.

d. In addition to using a numbering system to identify specific pages within the TSOP, descriptive headings should be used on all pages to identify subordinate elements of the TSOP.

(1) The first page of the TSOP should be prepared on the unit's letterhead. The remaining pages of the major sections should include the unit identification in the upper right hand corner of the page (for example: "___Medical Company").

(2) A sample heading for an annex is: "ANNEX C (Administration and Personnel) to __Medical Company."

(3) A sample heading for an appendix is: "APPENDIX 2 (Personnel Management) to ANNEX C (Administration and Personnel) to ___Medical Company."

(4) A sample heading for a tab is: "TAB A (Award Recommendations) to APPENDIX 2 (Personnel Management) to ANNEX C (Administration and Personnel) to __Medical Company."

e. As the TSOP is developed, there may be an overlap of material from one annex to another. This is due in part to similar functions that are common to two or more unit elements. Where overlaps occur, the material presented should not be contradictory. All discrepancies will be resolved prior to the authentication and publication of the TSOP.

E-4. Sample Tactical Standing Operating Procedure (Sections)

The information contained in this paragraph can be supplemented. It is not intended to be an all-inclusive listing. Different commands will have unique requirements that need to be included.

a. The first section of the TSOP identifies the unit that developed it.

(1) *Scope.* This document establishes and prescribes procedures to be followed by the designated unit and its assigned, attached, or OPCON units/elements.

(2) *Purpose.* This document provides policy and guidance for routine tactical operations of this unit and its assigned, attached, or OPCON units.

(3) *Applicability.* Except when modified by TSOPs and OPLANs/OPORDs of higher headquarters, this document applies to this unit and to all assigned, attached, or OPCON elements/units for combat operations. In cases of nonconformity, the document of the higher headquarters governs.

(4) *References.* This paragraph can include any pertinent regulations, policy letters, higher headquarters' TSOP, or other appropriate documents.

(5) *General information.* This paragraph discusses the required state of readiness of the unit; primary, secondary, and contingency missions; procedures for operating within another command's AO; and procedures for resolution of conflicts with governing regulations, policies, and procedures.

b. The second section of the TSOP discusses the unit's organization.

(1) *Organization.* This unit is organized and equipped in accordance with the applicable MTOE.

(2) *Task organization.* Task organization is contingent on the mission and is approved by the headquarters ordering deployment.

(3) *Orgarzational charts.* Contained in Annex A.

c. The third section of the TSOP discusses the unit functions.

(1) *Company headquarters.* The unit provides Echelons I and II medical care to supported units and area support medical care to those units operating in the AO without organic CHS resources. The company headquarters supervises movements, internal arrangements, area layout, physical security, and operation of the unit.

(2) *Ground and air ambulances (to include attached, assigned, or OPCON of corps evacuation elements).* These provide medical evacuation of patients; emergency movement of whole blood, biological, and medical supplies; transportation of medical personnel and equipment; and serve as messengers in medical channels.

(3) *Staff responsibilities.* This paragraph lists the unit's key personnel and their duties as prescribed in FM 101-5 and FM 8-10 and any command-directed duties.

d. The fourth section of the TSOP pertains to staff operations and is subdivided into annexes.

E-5. Sample Tactical Standing Operating Procedure (Annexes)

Annexes are used to provide detailed information on a particular function or area of responsibility. The commander determines the level of detail required for the TSOP. Depending upon the complexity of the material to be presented, the annex may be further subdivided into appendixes and tabs. If the annex contains broad guidance or does not provide formats for required reports, paragraphs may be used and the annex need not be further subdivided. However, as the material presented becomes more complex, prescribes formats, or contains graphic material, the annex will require additional subdivision. This paragraph discusses the subdivision of the annex by appendixes. It does not contain examples of subdividing into tabs the information presented in the appendixes. Applicable references, such as ARs, FMs, and technical manuals (TMs), should be provided in each annex. The number of annexes and their subdivisions presented below are not to be considered as an all-inclusive listing. Different commands will have unique requirements, therefore, supplementation of the information presented is permitted.

a. *Annex A. (Organizational Charts).*

b. *Annex B. (Command Post).*

(1) *General.* The company may operate a CP depending on the mission and tactical situation. Personnel staffing of the CP is tailored to plan, coordinate, and provide C^2 of assigned, attached, and OPCON elements. The area location for the CP is selected by the commander; he also designates who will staff it. Staffing usually consists of the commander and/or executive officer, first sergeant, communications personnel, and NBC NCO, if assigned.

(2) *Camouflage.* This appendix discusses what camouflage procedures are required to include—

- Type and amount of required camouflage materials (such as nets and shrubs).
- Display of the Geneva Conventions distinctive emblem on facilities, vehicles, and aircraft on the ground (STANAG 2931).
- Other pertinent policies, guidance, or procedures.

(3) *Message distribution.* This appendix establishes procedures for the handling of messages (both classified arid unclassified); provides procedures for picking up and delivering messages; and establishes procedures for preparing outgoing messages.

c. *Annex C. (Administration and Personnel).* This annex outlines procedures relating to administrative and personnel matters and associated activities.

(1) *Personnel accountability.*

- *Personnel Daily Summary (PDS).* This appendix provides the procedures for preparing and submitting a PDS report. The instructions may include requirements for encrypting the

report prior to transmission, and specific guidance on time of submission, corrections, or other administrative details.

- *Casualty Feeder Report.* This report is submitted on DA Form 1156. Instructions on the completion of the form and submission requirements are included.

- *Witness statements on individuals.* This statement needs to be completed only when the recovery of a body is not possible or cannot be identified. It should be submitted to the battalion S1 within 24 hours of the incident. The procedure should contain information on obtaining the form, instructions for completing it, and other relevant information.

(2) *Personnel management.*

- *Replacements.* Individual replacements will not be readily available during the initial phases of operations. The battalion S1 automatically initiates replacement requests for personnel who are reported on the PDS report as WIA, MIA, or killed in action (KIA).

- *Personnel actions.* All personnel actions are channeled through the battalion S1. The company executive officer and first sergeant are the company points of contact. Actions are handled expeditiously and meet suspense dates (tactical situation permitting).

- *Efficiency reports.* This paragraph provides pertinent information on the completion and submission of these reports.

- *Award recommendations.* This paragraph delineates the responsibilities for and guidance concerning the submission of recommendations for awards and for scheduling and conducting award ceremonies.

- *Promotions.* This paragraph discusses the procedures for submitting recommendations for promotion and conducting promotion ceremonies.

- *Correspondence.* All correspondence addressed to higher headquarters is submitted through the battalion S1. Requirements for submission, preparation, and approval are also provided.

- *Personnel records.* This paragraph discusses requirements for coordination for this support and the procedures for having correspondence included in the official military personnel files of assigned and attached personnel.

(3) *Personnel services.* Personnel services are those activities pertaining to soldiers as individuals. Unless prohibited by the tactical situation, the services listed below are normally available to all assigned and attached elements.

- *Sporting activities and morale and welfare activities.*

- *American Red Cross.*

- *Finance.* Finance units provide individual and organizational support on an area basis. Individual support includes casual payments, check cashing, currency conversion, and pay inquiries. Organizational support covers contracting support and commercial vendor operations and reimbursement of imprest fund cashiers and Class A Agents. Before deployment, units will have officer appointments prepared and be trained for Class A Agent duties.

- *Legal services.* Information and guidance on administrative boards, courts-martial authority and jurisdiction, legal assistance, and general services should be provided.

- *Religious activities.* Religious activities include UMTs, services available from different faiths, schedule of services, and hospital visitations.

- *Postal services.* This includes hours of operation and services available.

- *Post exchange services.* This includes hours of operation and availability.

- *Distribution.* Pick up and delivery schedules and any command-specific issues and procedures are provided.

(4) *Mortuary affairs.* Commanders at all levels are responsible for the recovery, identification, and evacuation of US dead. This appendix discusses the responsibilities and procedures for unit-level MA activities for assigned and attached personnel.

- *Responsibilities.* This paragraph discusses unit responsibilities.

- *Disposition.* Guidance on procedures, graves registration (GRREG) collection points, transportation requirements, and the handling of remains are provided.

- *Hasty burials.* Requirements for conducting hasty burials, marking the graves, and reporting the location of the grave sites are included.

- *Personal effects.* Guidance on the accounting for personal effects and requirements should a hasty burial be required.

- *Disposition of civilian and EPW remains.* The local civilian government is responsible for burial of the remains of their citizens. The burial of the remains of EPW should be accomplished in separate cemeteries from US, allied, and coalition personnel. If this is not possible, separate sections of the same cemetery should be used.

- *Contaminated remains.* This paragraph discusses the handling and disposition requirements (including protective clothing), procedures, and marking and reporting of contaminated burial sites.

(5) *Public information.* This appendix contains procedures for obtaining approval on the public release of information.

(6) *Maintenance of law, order, and discipline.* This appendix provides applicable regulations, policy, and command guidance on topics such as serious incident reports, notifications, and submission formats, straggler control, confinement of military prisoners, and EPW.

(7) *Enemy prisoners of war.* This appendix discusses the responsibilities of EPW surrendered to the medical unit. (These procedures DO NOT pertain to EPW patients captured by other units. Medical personnel DO NOT guard, search, or interrogate EPW while in CHS channels; guards are provided by non medical personnel designated by the tactical commander for these duties.) Until EPW personnel can be evacuated to an EPW collection point, medical personnel should remember and enforce the soldier basic skills: segregate, safeguard, silence, secure, and speed. (The speed portion of evacuating EPW to designated collection points is of paramount importance to medical units.)

NOTE

The treatment of EPW is governed by international and US law and the provisions of the Geneva Conventions. Personnel should be aware of these requirements and have ready access to the applicable regulations and policy guidance.

d. Annex D. (Intelligence and Security). This annex pertains to intelligence requirements and procedures and OPSEC considerations.

(1) *Intelligence.* Intelligence requirements are submitted to the battalion S2. These requirements include the essential elements of information (EEI), commander's critical intelligence requirements (CCIR), medical threat, and other intelligence information/products.

(2) *Counterintelligence.* This appendix discusses camouflage, COMSEC, signals and countersigns, SOI, and document security.

(3) *Weather.*

(4) *Captured personnel, equipment, supplies, and documents.* This appendix provides guidance on the procedures required for disposition of these personnel, equipment, supplies, and documents. The Geneva Conventions have a specific bearing on this area.

(5) *Security.* Security issues, such as weapons security, checkpoints, SOI, required reports, and escape and evasion training requirements, are included.

e. Annex E. (Operations). This annex establishes procedures for company operations on issues such as readiness levels, threat levels, warning levels, camouflage, security, and area damage control.

(1) *Operational situation report*. Report requirements for format, preparation, and submission are discussed.

(2) *Operations security*. This appendix provides guidance and procedures for secure planning and conduct of combat operations.

(3) *Operations security countermeasures*. This appendix discusses camouflage, light discipline, and physical, information, and signal security.

(4) *Communications-electronics*. This appendix establishes communications policies, procedures, and responsibilities for the installation, operation, and maintenance of C-E equipment.

- Concept of operations.
- Radio communications.
- Command and control.
- Radio teletypewriter communications.
- Message/communications center service.
- Message handling.
- Wire communications.
- Switchboard operations.
- Communications security and operations.
- Intelligence security.
- Meaconing, intrusion, jamming, and interference (MIJI) reporting and C-E countermeasures.
- Security violations.
- Daily shift inventory.
- Physical security.
- Security areas.
- Inventory of classified materials.

- Safety.
- Power units.

(5) *Rear battle responsibilities.* This appendix discusses rear battle responsibilities, task organization, and CHS support for reaction/response forces.

(6) *Unit location update.* This appendix provides timely information on the location of main and forward CPs, MSR, and POL points.

f. Annex F. (Unit Layout). This annex discusses the establishment and breakdown of the unit area. As this is a medical company, a smooth and even flow of patients through the treatment areas is necessary.

(1) *Site selection.* This appendix provides information on considerations for site selection, such as amount of terrain required, drainage, and coordination requirements.

(2) *Establishment of treatment areas.* This can be graphically displayed.

(3) *Establishment of area for the handling of contaminated patients.* This can be graphically displayed.

(4) *Establishment of administrative areas and motor pool.* This can be graphically displayed.

g. Annex G. (Nuclear, Biological, and Chemical Defense). This annex prescribes the policy, guidance, and procedures for NBC defensive measures.

(1) *Responsibilities.*

(2) *Nuclear, biological, and chemical reporting requirements and procedures.*

- Contamination avoidance.
- Protection. Protection pertains to those measures each soldier must take before, during, and after an NBC attack to survive and continue the mission.
- Decontamination. This discusses equipment requirements, procedures, types of decontamination (such as hasty), and patient decontamination.
- Mission-oriented protective posture. This appendix provides guidance on garments required for the different MOPP levels and identification procedures for personnel in MOPP.
- Operational exposure guidance (OEG). This appendix contains guidance that establishes the permissible radiation exposure level for the operation. It discusses determining what

constitutes a radiologic hazard and prescribes acceptable limits of potential casualty-producing doses of radiation.

- Masking and unmasking procedures.
- Radiological monitoring and survey operations.

h. Annex H. (Logistics). This annex establishes logistics procedures for the company.

(1) General supply and services. A discussion of the applicability, responsibilities, policy, classes of supply, requisition and delivery procedures, hours of operation, and other supply relevant topics and available services (such as laundry and bath) can be addressed in this appendix.

(2) *Health service logistics support.*The health service logistics concept of operations, requisition and distribution procedures, accountability, and reports are provided in this appendix.

(3) *Food service.* This appendix discusses responsibilities, hours of operation, Class I supplies, sanitation requirements, layout of field kitchen, fuel storage, maintenance, safety precautions, and administration (such as headcounts, meals, ready to eat [MRE], and inspections). (If the field feeding function is consolidated at battalion level, this appendix would detail support and coordination requirements for the field feeding operation.)

(4) *Transportation and movement requirements.* This appendix may cover the following areas: applicability; responsibilities; policies on speed, vehicle markings, transporting flammable materials, transporting ammunition and weapons, and so on; convoy procedures; safety; and accident reporting.

(5) *Fire prevention and protection.* This appendix provides guidance on—

- Use of the tent stove and flammable materials.
- Use of cigarettes, matches, and lighters.
- Operation or use of electrical wiring and appliances.
- Safety of tents and occupants.
- Spacing of tents, stoves, and ranges.
- Installation of British thermal units (BTU) heaters.
- Availability of fire-fighting equipment.

(6) *Field hygiene and sanitation.* This appendix provides uniform guidance and procedures for the performance of functions related to field hygiene and sanitation. It includes the following topics:

- Communicable disease control.
- Field sanitation team.
- Field water supply, water containers and cans, and water purification bags and procedures.
- Food sanitation.
- Latrines.
- Liquid waste, garbage, and rubbish disposal.

(7) *Conventional ammunition down and upload procedures.* This appendix delineates responsibilities and provides guidance and procedures for the requisition, storage, and distribution of ammunition and weapons, reporting requirements, and safety. It also includes procedures for securing patients' weapons and organizational equipment while patients are being held or evacuated.

(8) *Petroleum, oils, and lubricants accounting.*

(9) *Maintenance.* This appendix includes information on the maintenance requirements of the company and the location and hours of operation of maintenance units and collection points. Maintenance for medical equipment, vehicles, and communications and other categories of equipment are discussed.

i. Annex I. (Safety). This annex establishes minimum essential safety guidance for the unit. It includes—

- Accident reporting.
- Safety measures.
- Emergency procedures.
- Vehicle safety.
- Ground guide procedures.
- Fire prevention and protection.
- Climate and survival training.

- Animal and arthropod hazards.
- Personal protective measures.
- Hearing conservation program.
- Threat of carbon monoxide poisoning.

j. *Annex J. (Civil-Military Operations).* This annex discusses participation in CMO. Medical elements are often involved in CMO, humanitarian assistance, and disaster relief operations. The activities which may be covered include—

- Providing DS for medical evacuation.
- Providing guidance on developing a medical infrastructure in a HN.
- Providing training to HN personnel.

k. *Annex K. (Clearing Station Clinical Activities).* Refer to the CSOP (Appendix N.)

APPENDIX F

RECORDS AND REPORTS

Section I. PATENT ACCOUNTABILITY

F-1. General

a. Individuals entering the medical treatment chain must be accounted for at all times. Prompt reporting of patients and their health status to the next higher headquarters is necessary for the maintenance of a responsive personnel replacement system and the Army Casualty System. Patient accountability and status reporting is required to—

- Provide the commander with an accurate account of personnel losses due to enemy action and related battlefield losses.
- Verify personnel replacement requirements.
- Assist the command surgeon in the preparation of the CHS estimate and plan.
- Alert PVNTMED personnel to the medical threat in a given AO.

b. Patient accountability and status reporting is depicted graphically in Figure F-1.

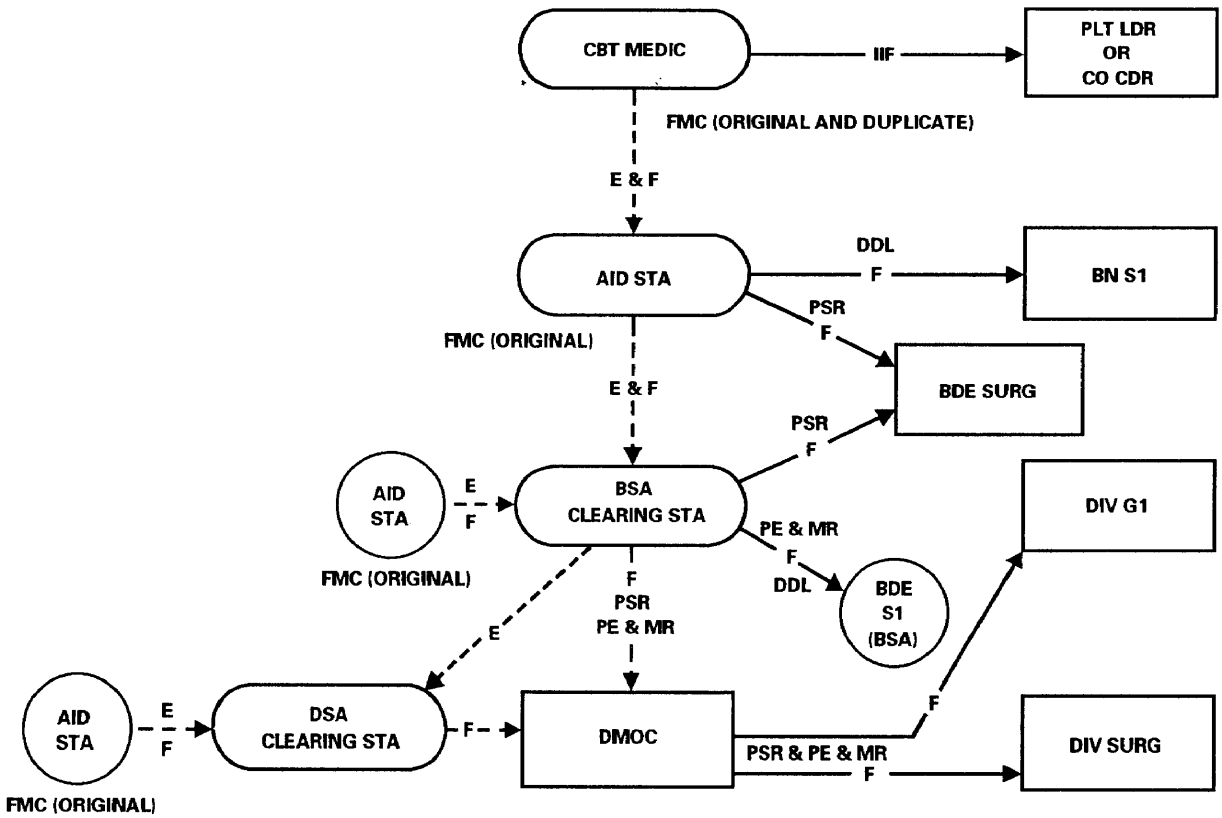
This paragraph implements STANAG 2132 and QSTAG 470.

F-2. United States Field Medical Card

a. The FMC (DD Form 1380) is used to record data similar to that recorded on the inpatient treatment record cover sheet (ITRCS) and Standard Form (SF) 600, Health Record--Chronological Record of Medical Care. The FMC is used by BASs, clearing stations, and nonfixed troop or health clinics working overseas, on maneuvers, or attached to commands moving between stations. It may also be used to record an outpatient visit when the health record is not readily available at an MTF. The FMC is used in the TO during times of hostilities. It also may be used to record *carded for record only* (CRO) cases.

b. The FMC is made so that it can be attached to a casualty. The cards are issued as a book, with each card set consisting of an original card and a pressure sensitive paper duplicate.

c. For additional information on the preparation and use of this card, refer to AR 40-66, FM 8-10-6, and FM 8-230.



LEGEND:

DDL	DAILY DISPOSITION LOG	IIF	INFORMAL INFORMATION FLOW
E	PATIENT EVAC FLOW	PE & MR	PATIENT EVAC AND MORTALITY REPORT
F	FORMAL INFORMATION FLOW	PSR	PATIENT SUMMARY REPORT
FMC	FIELD MEDICAL CARD		

NOTE: – – – PATIENT FLOW AND INFORMATION
——— INFORMATION ONLY

Figure F-1. Patient accountability and status reporting.

F-3. Daily Disposition Log

a. The DDL (Figure F-2) is maintained by Echelons I and II MTFs. The information from this log is extracted, when required, and provided to the S1 or supported unit requesting the information. The DDL is also the primary source document for information needed in the preparation of the PSR and the PE&MR.

b. This log is maintained by all divisional (Echelons I and II) MTFs. It does not lend itself to transmission. However, the information may be extracted and provided to agencies responsible for preparing consolidated reports.

F-4. Patient Evacuation and Mortality Report

The PE&MR (Figure F-3) is prepared by Echelons I and II MTFs. It is disseminated as shown in Figure F-1. The PE&MR primarily serves as a medical spot report. The frequency of this report is established by the command surgeon.

F-5. Patient Summary Report

This report is a weekly report (Figure F-4), compiled as of 2400 hours, Sunday. It is prepared by Echelons I and II MTFs and is submitted to respective surgeons as shown in Figure F-1, usually on each following Monday. The command surgeon can, however, dictate the frequency of submission to meet command requirements.

DAILY DISPOSITION LOG

DTG:

NAME	GRADE	SSN	UNIT/NATION	INJURY/ILLNESS STATUS	DISPOSITION TIME
SHAW, L.	03	000000000	A TRP RECON	GSW, L-LEG/WIA	CLR-0900Z
HERRERA, C.	E4	000000000	C3, 6 INF/US	SICK/MIGRAINE/ DIS	RTD-1400Z
JONES, C.J.	E6	000000000	A1, 6 INF/US	LACERATION-L HAND/NBI	CLR-1200Z
EPW (UNKNOWN)			EPW	FRAG WOUND OF HEAD/DOA/KIA	MA-1220Z
IVANOVICH, N.	04	000000000	EPW	SW R-ARM/WIA	MP/BDE SCTY ELEM-1400Z
FLOWERS, R.C.	E8	000000000	B TRP RECON SQDN/US	BF/DNBI	CLR-1640Z
CONRAD, W.	E5	000000000	6 PANZER/GE	BURN, 3D DEGREE CHEST/ABDOMEN/WIA	CLR-1400Z
DECK, H.	02	000000000	C BTRY, 3 FA/US	PUNCTURE WOUND R-ANKLE/WIA	CLR-1400Z
HASLEY, B.	E1	000000000	B TRP RECON SQDN/US	CHEMICAL INJ SYSTEMIC/WIA	15TH CSH-1705Z
WATSON, WM. T.	E3	000000000	B TRP RECON SQDN/US	DE INJ BOTH EYES	15TH CSH-1815Z
FISHER, T.T.	E7	000000000	A TRP RECON SQDN/US	UNCONTROLLED VOMITING-BW/WIA	CLR-1900Z

NOTE: THIS LOG, IN THE ABOVE FORMAT, IS MAINTAINED BY ALL DIVISIONAL TREATMENT FACILITIES. IT DOES NOT LEND ITSELF FOR TRANSMISSION. HOWEVER, THE INFORMATION MAY BE EXTRACTED AND PROVIDED TO AGENCIES RESPONSIBLE FOR PREPARING THE CONSOLIDATED FEEDER REPORT.

LEGEND:

BDE	BRIGADE	DTG	DATE-TIME GROUP	L	LEFT
BF	BATTLE FATIGUE	ELEM	ELEMENT	MA	MORTUARY AFFAIRS
BW	BIOLOGICAL WARFARE	FA	FIELD ARTILLERY	MP	MILITARY POLICE
CLR	CLEARING (STATION)	FRAG	FRAGMENTATION (WOUND)	NBI	NONBATTLE INJURY
DE	DIRECTED ENERGY	GE	GERMAN	R	RIGHT
DIS	DISEASE	GSW	GUN SHOT WOUND	RECON	RECONNAISSANCE
DNBI	DISEASE AND NONBATTLE INJURY (PURPLE HEART NOT AUTHORIZED)	INF	INFANTRY	SCTY	SECURITY
		INJ	INJURY	SQDN	SQUADRON
		KIA	KILLED IN ACTION (PURPLE HEART AUTHORIZED)	TRP	TROOP
DOA	DEAD ON ARRIVAL			US	UNITED STATES
				WIA	WOUNDED IN ACTION (PURPLE HEART AUTHORIZED)

Figure F-2. Sample format of a Daily Disposition Log.

SAMPLE FORMAT

PATIENT EVACUATION AND MORTALITY REPORT

DATE TIME GROUP (DTG): _____

(FROM) / (TO)

ALPHA (EVACUATED)

NAME	GRADE	SSN	*UNIT/NATION	TENTATIVE DIAGNOSIS	DESTINATION DTG
WILSON, V.C.	03	000000000	A TRP RECON SQDN/US	MULTIPLE GSWs ABDOMEN AND L-THIGH	15TH CSH/ 251015Z MAR 86
BANNON, E.J.	05	000000000	HHC, CAB 7ID/US	FOUO	15TH CSH/ 251215Z MAR 86
THOMPSON, R.L.	05	000000000	HHC, 3D BN 6 INF/US	ACUTE MYO-CARDIAL INFARCTION	15TH CSH/ 251535Z MAR 86

BRAVO (EXPIRED)

NAME	GRADE	SSN	UNIT/NATION	CAUSE OF DEATH	DTG
WILLIAM, W.R.	E3	000000000	B TRP RECON SQDN/US	BURN, THERMO, 3D DEGREE 26 PERCENT	251415Z MAR 86
MAGSAYSAY, M.			EPW	FRAG WOUND OF HEAD	251600Z MAR 86
COMRAD, W.F.	E5	000000000	6 PANZER/GE	RADIATION BURN/MULTIPLE GSWs-SEVERE TRAUMA	251805Z MAR 86

NOTES:

1. THIS IS A BY-NAME REPORT WHICH INCLUDES TWO CATEGORIES OF INFORMATION: THE NAME, GRADE, SSN, UNIT, DIAGNOSIS, AND DESTINATION AND DATE-TIME- GROUP OF PATIENTS EVACUATED (ALPHA); AND THE NAME, GRADE, SSN, UNIT AND CAUSE OF DEATH OF PATIENTS WHO EITHER DIED EN ROUTE, OR WHILE AT A REPORTING MTF (BRAVO).

2. THIS REPORT, WHEN COMPLETED, WILL BE CLASSIFIED IN ACCORDANCE WITH LOCAL COMMAND POLICY—ENCODE/ ENCRYPT FOR TRANSMISSION.

*UNIT/NATION FOR ENEMY PRISONER OF WAR WILL BE LISTED AS "EPW."

Figure F-3. Sample format of a Patient Evacuation and Mortality Report.

SAMPLE FORMAT

PATIENT SUMMARY REPORT

DTG: _____

(FROM) / (TO)

		WIA	NBI	DISEASE	*NP	TOTAL
PATIENTS						
ALPHA	US	_____	_____	_____	_____	_____
BRAVO	ALLIED	_____	_____	_____	_____	_____
CHARLIE	EPW	_____	_____	_____	_____	_____
DISPOSITION TOTALS						
DELTA	RETURNED TO DUTY			_____		
ECHO	EVACUATED BY AIR			_____		
FOXTROT	EVACUATED BY GROUND			_____		
GOLF	EXPIRED EN ROUTE			_____		
HOTEL	EXPIRED IN MTF			_____		

NOTE: THIS REPORT, WHEN COMPLETED, WILL BE CLASSIFIED IN ACCORDANCE WITH LOCAL COMMAND POLICY–ENCODE/ENCRYPT FOR TRANSMISSION.

*NEUROPSYCHIATRIC STRESS-RELATED PATIENTS SHOULD BE RECORDED HERE.

Figure F-4. Sample format for a Patient Summary Report.

Section II. MEDICAL REPORTS

F-6. General

In addition to patient accountability reports, a number of other medical reports may be required for preparation by the medical company. This is not intended to be an all-inclusive listing.

F-7. Reports

Table F-1 provides a listing of medical reports.

Table F-1. Medical Reports

TITLE	FORMAT	SUBMITTED BY	AS OF TIME	TIME DUE	REMARKS
1. LOCAL REPORTS					
a. MEDREP (RCS, EX, 17K, AR 335-15)		Each Echelon II and III MTF	Daily as of 2400	1000 after report period	Telephone or courier to medical group/brigade and corps surgeon
b. BLDREP (RCS Exempt, AR 335-15)		Each MTF using blood products	Daily as of 2400	1000 after report period	Telephone, courier, or secure radio transmission to supporting blood products supplier
2. DEPARTMENT OF THE ARMY REPORTS					
a. Medical Summary Report (RCS Med-302 [R3])	DA Form 2789-R (series) AR 40-400	Each MTF	Monthly as of 2400, last month	OCONUS within 10 days from end of report or last day of period--OCONUS of operation to CONUS within 15 days from end of report period	**Original and 3 copies to division/corps surgeon
b. Assignment and Utilization of Army Medical Service Personnel (RCS Med-87 [R6])	AR 40-202	All TOE units to which AMEDD personnel are authorized or assigned	Quarterly as of last day of quarter	Within 48 hrs from end of reporting period	*Original and 3 copies to division/corps surgeon
c. Command Health Report (RCS MED-3 [R7])	AR 40-5	Each surgeon assigned to unit (consolidated by major command)	Monthly as of last day of month	Within 3 days from end of reporting period	Through command channels to division/ corps surgeon

Table F-1. Medical Reports (Continued)

TITLE	FORMAT	SUBMITTED BY	AS OF TIME	TIME DUE	REMARKS
d. Dental Service Report (RCS Med-376 [R1])		Dental surgeon or functional unit providing dental service	Quarterly as of last day of quarter	Within 3 days from end of reporting period	*Original and 2 copies by courier to division/ corps surgeon
e. Army Medical Service Activities Report (RCS Med-41 [R4])	AR 40-226	All TOE units which AMEDD personnel are authorized or assigned	Annual as of last day of month	NLT 1 Mar from end of reporting period	Through channels; original and 5 copies to division/corps surgeon
3. SPECIAL REPORT Special Telegraphic Reports of Selected Diseases (RCS Med-16 [R4])	AR 40-400	All commands as required, upon advice of surgeon providing care to affected units	As required	Immediately, when required, written confirmation within 24 hrs	Facsimile or courier to division/corps surgeon

NOTES:
*Through medical technical channels.
**Through medical technical channels. Division medical resources may submit a consolidated report for all subordinate medical elements. Major medical units (medical brigade/group) and subordinate units (hospitals and ASMBs) will submit consolidated reports as appropriate.

Section III. BLOOD MANAGEMENT REPORT

F-8. General

This section provides a format for the required report for requesting blood support. Echelon II MTFs may only request Group O RBCs. The report in this appendix, therefore, only discusses this limited support. For additional information on the complete blood report submitted by Echelons III and IV MTFs, refer to FM 8-55.

F-9. Blood Management Report

Depending on the tactical situation and the command policy, the blood report may be transmitted by voice or written means (transmitted by electronic message, telephonically, or courier). A sample written message format is contained in Figure F-5. A sample voice message format is contained in Figure F-6.

FM: MEDICAL TREATMENT ELEMENT	
TO: BLOOD SUPPLIER	
INFO: AS DETERMINED BY COMMAND OPLAN	
CLAS	
OPERATIONAL DESIGNATOR	
MSGID/BLDREP/___ FSMC/151215ZJUN92//	
ASOFDTG/160430ZJUN92	(LINE 1)
REPUNIT/___FSMC/H//	(LINES 2 AND 3)
BLDINV/5 JS//	(LINE 9)
BLDREQ/7JS//	(LINE 10)
BLDEXP/2JS//	(LINE 11)
BLDEST/15JS//	(LINE 12)
CLOSE TEXT/RECEIVED 6JS/TRANSFUSED 4JS/SHIPPED 0//	(LINE 13)

Report Explanation:

Line 1:	The blood report is as of 1215Z, 15 Jun 92.
Lines 2 and 3:	The reporting unit is the ___FSMC, code H (medical treatment element).
Line 9:	The ending inventory of blood on hand is 5 units of type O red blood cells (Brevity codes: J-Red blood cells; S-Random type O.
Line 10:	Quantity of blood requested: 7 units type O red blood cells.
Line 11:	Quantity of blood expired: 2 units type O red blood cells.
Line 12:	Estimated blood requirements for the next 7 days.
Line 13:	Narrative such as refrigerator needs repair or 6 units of type O red blood cells were received within the past 24 hours; 4 units of type O red blood cells were transfused; and no units were shipped.

Figure F-5. Sample written format for blood report.

LINE 1	151215Z
LINE 2	___ FSMC
LINE 3	H
LINE 9	5 JS
LINE 10	7 JS
LINE 11	2 JS
LINE 12	15 JS
LINE 13	REFRIGERATOR NEEDS REPAIR
LINE 14	
LINE 15	(AUTHENTICATION IN ACCORDANCE WITH SOI)

Report Explanation:

Line 1:	As of DTG (day, time, zone) of the blood shipment.
Line 2:	Reporting unit's name or designator code.
Line 3:	Reporting unit's activity brevity code letter.
Line 9:	The ending inventory of blood on hand is 5 units of type O red blood cells (Brevity codes: J-Red blood cells; S-Random type O.
Line 10:	Quantity of blood requested: 7 units type O red blood cells.
Line 11:	Quantity of blood expired: 2 units type O red blood cells.
Line 12:	Estimated blood requirements for the next 7 days.
Line 13:	Narrative such as refrigerator needs repair or 6 units of type O red blood cells were received within the past 24 hours; 4 units of type O red blood cells were transfused; and no units were shipped.
Line 14:	Message hour, minute, zone.
Line 15:	Authentication, if required.

Figure F-6. Sample voice message format.

Section IV. SAMPLE MEDICAL EVACUATION REQUEST WORK SHEET

F-10. General

This section provides a sample work sheet for recording medical evacuation request information and may also serve as an after-action report, if required.

F-11. Sample Medical Evacuation Request Work Sheet

Figure F-7 provides a sample work sheet.

SAMPLE FORMAT

MEDICAL EVACUATION WORK SHEET/AFTER-ACTION RECORD

DTG RECEIVED	CALL SIGN	AIR/GROUND	UNIT MISSION/MISSION NUMBER	
ITEM	**CLEAR/DECRYPTED**	**ENCRYPTED**	**BREVITY CODE**	**ACTUAL INFORMATION**
1 LOCATION OF PICKUP SITE				
2 FREQUENCY/ CALL SIGN SUFFIX AT PICKUP SITE				
3 NUMBER OF PATIENTS BY PRECEDENCE			A--URGENT B--URGENT-SURG C--PRIORITY D--ROUTINE E--CONVENIENCE	
4 SPECIAL EQUIPMENT			A--NONE B--HOIST C--EXTRACTION EQUIPMENT D--VENTILATOR	
5 NUMBER OF PATIENTS BY TYPE			L + # OF PNT--LITTER A+ # OF PNT--AMBULATORY (SITTING)	
6 SECURITY OF PICKUP SITE*			N--NO ENEMY TROOPS P--POSSIBLE ENEMY TROOPS (CAUTION) E--ENEMY TROOPS IN AREA (CAUTION) X--ENEMY TROOPS IN AREA (ARMED ESCORT REQUIRED)	
7 METHOD OF MARKING PICKUP SITE			A--PANELS B--PYROTECHNIC SIGNAL C--SMOKE SIGNAL D--NONE E--OTHER	
8 PATIENT NATIONALITY AND STATUS			A--US MILITARY B--US CIVILIAN C--NON-US MILITARY D--NON-US CIVILIAN E--EPW	
9 NBC CONTAMINATION*			N--NUCLEAR B--BIOLOGICAL C--CHEMICAL	
NEAREST AXP	**DESTINATION MTF**		**DEST FREQ/CALL SIGN**	**ETE**

NOTES:
(EXPLAIN DELAYS)
(LIST MSRs OR AIR CORRIDORS)
(LIST EXCHANGE REQUIREMENTS)
*WARTIME

Figure F-7. Sample medical evacuation request work sheet.

SAMPLE FORMAT

DTG REQUEST RECEIVED BY EVACUATION UNIT	DTG REQUEST RECEIVED BY EVACUATION CREW	EVAC VEHICLE/AIRCRAFT DESIGNATION (BUMPER NUMBER/AIRCRAFT NUMBER)
DTG ARRIVED AT PICKUP SITE	DTG DEPARTED PICKUP SITE	EVACUATION ORGANIZATION
DTG ARRIVED AT MTF 1	DESIGNATION OF MTF 1	LOCATION OF MTF 1
DTG ARRIVED AT MTF 2	DESIGNATION OF MTF 2	LOCATION OF MTF 2
DTG ARRIVED AT MTF 3	DESIGNATION OF MTF 3	LOCATION OF MTF 3
DTG ARRIVED AT MTF 4	DESIGNATION OF MTF 4	LOCATION OF MTF 4

PATIENT DATA

NAME	RANK	SSN/ID NO	UNIT	MTF EVACUATED TO

MISSION NARRATIVE: CHRONOLOGICALLY COVER AS MUCH INFORMATION AS IS AVAILABLE.

EVACUATION CREW: INDIVIDUAL IN CHARGE:	SIGNATURE OF INDIVIDUAL IN CHARGE:
PILOT/DRIVER:	
MEDIC:	
CREW CHIEF:	

CONTINUATION OF INFORMATION:

APPENDIX G

FIELD WASTE

The accumulation and disposal of waste of all types is a major problem on the modern battlefield. Not only does this waste impact on military operations, but it also serves as a breeding ground for rodents and arthropods. Further, the accumulation of waste contributes to environmental contamination.

Section I. OVERVIEW

G-1. General

All waste is disposed of in an environmentally acceptable manner consistent with good sanitary engineering principles and accomplishment of the unit mission. While operating outside the continental United States (OCONUS), either in training or actual contingency operations, the theater commander determines the applicability of both US and HN policies.

G-2. Responsibility for Disposal of Waste

a. Depending on the nature and volume of the waste created, units generating the waste are responsible for its collection and disposal.

b. Certain types of waste require special handling that may be beyond the capability of the unit or facility. Further, units generating large amounts of waste, such as hospitals or MTFs, may not have the resources or equipment to properly dispose of solid waste. In these cases, supporting engineer units should be contacted to provide waste disposal support.

G-3. Categories of Waste

Waste can be subdivided into five distinct categories: general waste (including solid waste), hazardous waste, medical waste, human waste, and wastewater. Nonmedical solid waste (general and hazardous waste) is generated by all military units. Medical waste is only generated by medical elements, such as treatment, research, and laboratory.

a. General Waste. This category includes all waste not specifically classified as medical waste or hazardous waste. It includes items such as—

- Paper and plastic products (by far the most abundant solid waste generated in a field environment).
- Garbage (generated by dining facilities).
- Scrap material (wood, metal, and so forth).

b. *Hazardous Waste.* This includes wastes which are ignitable, corrosive, reactive, or toxic, especially POL and some chemicals, and which require special handling, transportation, disposal, and documentation. Supporting engineer and PVNTMED personnel can provide guidance and assistance in the handling and disposing of hazardous waste.

c. *Medical Waste.* This is waste produced in an MTF (nongeneral) which contains pathogens of sufficient quantity and virulence to result in an infectious disease in a susceptible host.

d. *Human Waste.* This waste is composed of feces and urine.

e. *Wastewater.* This includes liquid waste generated by laundry, shower, food service, and routine MTF operations.

Section II. GENERAL AND HAZARDOUS WASTE

G-4. General

General and hazardous waste are produced by all military units. The information contained in this appendix on these types of waste is minimal.

G-5. Sources of General and Hazardous Waste

a. The primary sources of general and hazardous waste are—

- Routine troop support operations.
- Maintenance and motor pool operations.
- Administrative functions.
- Dining facility operations.
- Medical treatment facilities.

b. In all of these operations or functions, a major effort must be made to reduce the amount of waste generated, and thus, lessen the burden on the disposal system.

G-6. Disposal of General and Hazardous Waste

Most general waste is buried or burned by the generating element. It can be transported in organic vehicles to a waste disposal point (sanitary landfill). It is important to remember, however, that

vehicles used to transport waste must be properly cleaned and sanitized before being used for other operations. During training exercises, supporting engineer assets are responsible for the construction and operation of the landfills.

a. Putrescible waste from dining facilities, while not hazardous or infectious in and of itself, can become both a serious aesthetic problem and a breeding ground for disease-carrying rodents and arthropods. This class of solid waste must be removed and disposed of after every meal. Burial of this type of waste should be at least 30 yards (or meters) from the food service facility. Normally, one garbage pit is required per 100 soldiers per day (FM 21-10-1).

b. Used oil and other POL products are classified as hazardous waste. Disposal methods for this waste must comply with federal, state, local, and HN regulations. Military engineer and PVNTMED support elements can advise on required disposal procedures.

Section III. MEDICAL WASTE

G-7. General

A component of medical waste, *infectious waste* is defined as any waste generated by an MTF capable of producing infectious disease. For a waste to be infectious, it must contain (or potentially contain) pathogens of sufficient virulence to result in an infectious disease in a susceptible host.

G-8. Responsibility for Disposal of Medical Waste

a. Medical treatment facility commanders, assisted by their PVNTMED assets, are responsible for implementing policies for medical waste management to include medical waste—

- Identification.
- Detection.
- Segregation.
- Handling.
- Storage.
- Disposal.

b. The medical company commander, a physician, is responsible for ensuring that procedures to control the spread of infectious diseases are instituted and enforced within the facility.

Infectious control procedures are established to preclude the spread of infection within the MTF and to prevent the spread of infectious disease outside the facility.

G-9. Types of Medical Waste

All medical waste may be subject to an infectious nature. Other than the initial triage, treatment, and further evacuation of these patients, the medical company does not generate a significant amount of this type of medical waste. There are six types of medical waste requiring specific handling and disposal techniques.

a. Isolation Waste. This waste is generated by patients who are isolated to protect others from highly communicable disease. It includes all discarded materials contaminated with blood, excretions, exudates, or secretions.

b. Microbiological Waste. This waste comes from cultures and stocks of infectious agents from medical laboratory elements, such as specimens or discarded vaccines from treatment areas.

c. Blood and Blood Products. This waste results from the use of all blood and blood-related products including blood bags, blood tubes, and other material contaminated with blood.

d. Contaminated Sharps.

(1) This particular waste includes, but is not limited to, used—

- Hypodermic needles and syringes.
- Pipettes.
- Glass tubes.
- Broken glassware.
- Scalpel blades.

(2) In addition to the physical hazards of sharps, there is the potential for transmission of pathogenic organisms from puncture wounds. Unused sharps also should be considered dangerous since the same puncture hazard exists.

e. Surgical Waste. Surgical waste is the material that has been contaminated as the result of surgical procedures. Examples of this category include—

- Soiled dressings.
- Used sponges.

- Contaminated drainage tubes.
- Soiled surgical drapes and gloves.
- Other material discarded after completion of a procedure.

f. Pathological Waste. This waste is comprised of human or animal tissue, organs, body parts, and fluids removed during a surgical procedure. Human corpses (remains), however, are not considered pathological waste and are handled by MA elements.

G-10. Sources of Medical Waste

a. The major sources of medical waste are patient care areas. In the medical company, this includes the EMT and triage areas, dental treatment area, the 72-hour patient-holding area, and the medical laboratory element. In the event that a surgical detachment is collocated with the medical company (or the surgical squads organic to the airborne/air assault division medical companies), additional medical waste will be generated by this element.

b. The actual amount of medical waste generated by the unit is dependent on the—

- Intensity of the tactical situation.
- Number of casualties (patient work load).
- Types of medical conditions.
- Complexity of medical procedures.
- Patient-holding considerations.

G-11. Handling and Transporting Medical Waste

a. Proper handling is the key to an effective waste program. Segregation of infectious waste from general waste at its source is a must. Procedures for handling medical waste are—

- Personnel who transport and dispose of infectious waste wear a disposable mask, butyl rubber apron, and gloves.
- Infectious waste is collected in double-lined impervious containers with tight fitting lids, if available; otherwise, double plastic bags are used. The containers are clearly labeled as infectious waste. All bags are sealed after being filled to only two-thirds capacity; they are sealed by lapping the gathered open end and binding it with tape or a closure device. This ensures that liquid waste cannot leak. A method of segregating infectious waste from general waste is the use of distinctly colored bags (red) for infectious waste, if available (AR 40-5).

- Sharps are placed in a rugged, clearly marked, puncture resistant container.
- Blood, blood products, and semisolid waste are placed in unbreakable capped or stoppered containers.
- Medical waste is stored in designated areas, either secured or under direct physical control.
- Infectious waste is removed from the point of generation and is disposed of at least every 24 hours.

b. The transportation of medical waste within an MTF is in rigid, leak proof containers, marked and used exclusively for its transport. Vehicles used to transport medical waste to disposal sites should not be used for the transportation of rations, clean laundry, or medical supplies. Before the vehicle is used for other purposes, it must be thoroughly cleaned and sanitized using a 5 percent chlorine solution (48 ounces of chlorine granules in 5 gallons of water).

G-12. Disposing of Medical Waste

The purpose of properly treating and disposing of medical waste is to render it nonpathogenic and make it inaccessible. Depending on the quantity and type of waste, command policies, availability of disposal facilities, and engineer support, a variety of options exist. Every effort should be made to use the safest and most complete method of disposing of these materials.

a. Training and Tactical Deployment. During training deployment in CONUS and training and tactical deployment in many OCONUS locations (such as European), the HN environmental regulations are such that disposal of medical waste via field expedient methods is not permitted. Furthermore, the quantities and types of medical waste generated during training are relatively small due to the limited amount of actual patient care. As such, the option of choice is to haul the medical waste, via military vehicle or contract services, to fixed installations (preferably large, fixed MTFs) for treatment and disposal according to command policies. While this option does not provide the most ideal training, it may be the only viable option available. The requirements for segregating and handling waste are critical and remain an essential part of training.

b. Steam Sterilization. Some types of medical waste, especially in small quantities, can be rendered nonpathogenic by autoclave (steam sterilization), when available. This technique is particularly appropriate for small amounts of waste generated in EMT areas and the laboratory element (for example, contaminated dressings, needles, syringes, cultures, culture plates, pipettes, and blood tubes). To ensure complete disinfection, the steam sterilizer must operate at a minimum of 250°F (121 degrees Celsius [C]) under 15-17 pounds of pressure per square inch (psi), for 45 minutes. Two factors must be kept in mind when using the autoclave: the size of the load placed in the chamber and the exposure time. There are a number of different types of autoclaves; therefore, for detailed information on the operation of a specific autoclave, refer to the manufacture's instructions or technical manual.

c. Controlled Incinerations. Incineration is the method of choice for most types of medical waste, but it must be controlled. Burning medical waste requires incinerators specifically designed for the various types of medical waste. During OCONUS mobilization deployment, an inclined plane incinerator (Figure G-1) is a field expedient when no other option is available. For the medical company to build and use this incinerator, there should be no immediate plans to move the unit location. This field expedient incinerator is a controlled open air burning method that can be used for burning small amounts of medical waste; however, command approval must be given prior to its use. Thorough consideration must be given to all available options before deciding to implement the open air burning method. This incinerator will dispose of trash and medical waste from a hospital or a smaller-sized MTF. The combustion achieved by this incinerator and the fact that it is not affected by light rain or wind makes it an excellent improvised device. Time and skill, however, are required in building it. A sheet metal plane is inserted through telescoped oil drums from which the ends have been removed. A loading or stoking platform is built; then one end of the plane drum device is fastened to it, creating an inclined plane (FM 21-10-1). A grate is positioned at the lower end of the plane, and a wood or fuel oil fire is built under the grate. After the incinerator becomes hot, drained waste material is placed on the stoking platform. As the waste dries, it is pushed down the incline in small amounts to burn. Final combustion takes place on the grate. The operator of this device must wear gloves, a butyl rubber apron, and a disposable mask.

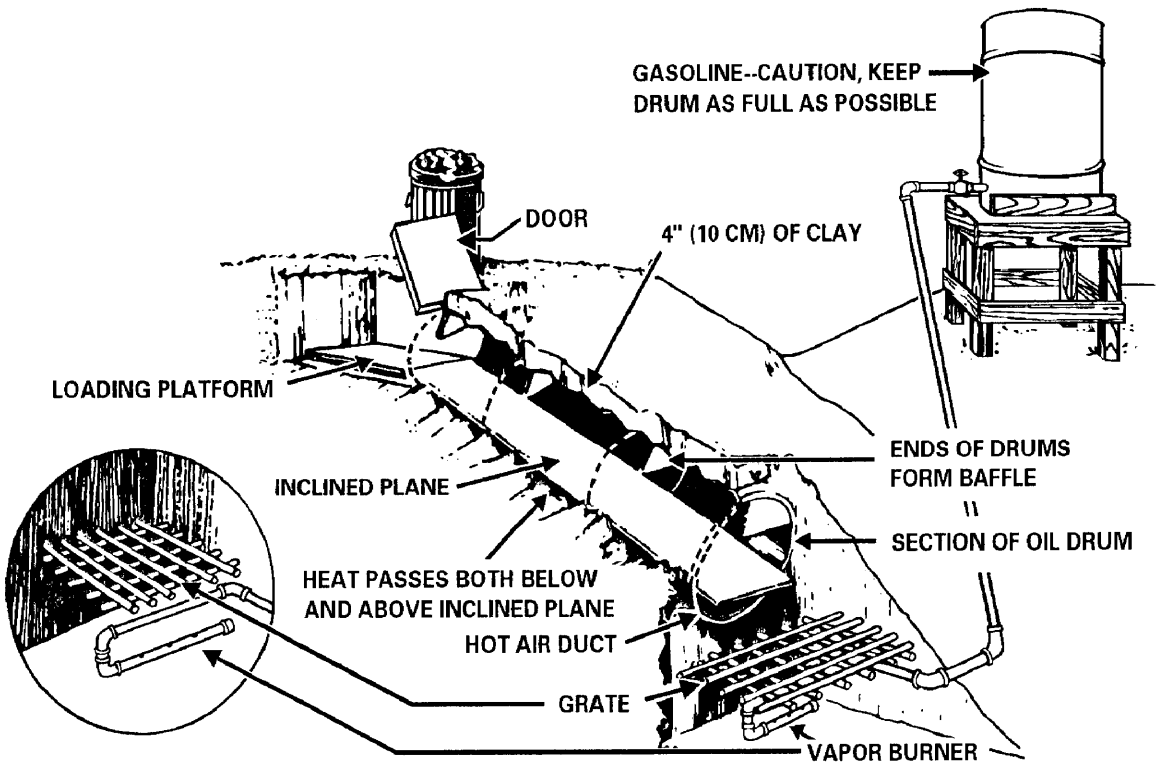


Figure G-1. Improvised inclined plane incinerator.

NOTE

In all cases, ash from waste incineration must be buried.

d. Disposal by Burying. As a last resort and with command approval, medical waste can be buried. Engineer support is required for the design and construction of the waste disposal site. The waste must be covered immediately after disposal to ensure inaccessibility. All previous options are considered before accepting burial as the final option. Close coordination with PVNTMED personnel and HN authorities is essential.

Section IV. HUMAN WASTE

G-13 General

Human waste (feces and urine) disposal is essential to prevent the spread of diseases caused by direct contact, contamination of water supplies, or dissemination by rodents or arthropods. It is even more critical at MTFs because patients are more susceptible to diseases transmitted through fecal contact. All human waste must be disposed of in a manner consistent with command policy and good sanitary engineering practices.

G-14 Responsibility for Disposal of Human Waste

The unit commander is responsible for providing the appropriate human waste disposal facilities. However, commanders of field MTFs may require engineer support in the construction of latrine facilities.

a. Field Medical Treatment Facilities. In some locations, construction and use of actual field expedient waste facilities may be prohibited. In this case, one option is to obtain engineer support. The option of choice is to establish the MTF in an area with permanent or semipermanent latrine facilities already constructed and connected to an established sewage system. However, this may only be possible in some areas designated as deployment sites. In many instances, it may be possible to contract waste removal or latrine facilities through a HN support contract. Procedures will vary depending on the command policy and local (HN) agreements, but waste will still have to be separated into types by the unit. The use of chemical or self-contained toilets is another option instead of constructing field expedient latrines. In all types of arrangements, the unit field sanitation team and PVNTMED personnel are responsible for monitoring the achievement of field sanitation requirements (FM 21-10-1).

b. *Field Expedient Facilities.*

(1) *Type selection.*

(a) The type of field latrine selected for a given situation depends on a variety of factors, such as—

- Number of personnel (staff and patients).
- Duration of stay at the site.
- Geological and climatic conditions.

(b) Supporting PVNTMED personnel and the unit's field sanitation team can assist the commander in determining the appropriate type of latrines, their locations, and size.

(c) Specific guidance on selection criteria is provided in FM 21-10 and FM 21-10-1.

(2) *Location.* Location of MTF latrines is a compromise between the requirement for physical separation from dining facilities, water sources, and the like, and convenience of access for staff and ambulatory patients. Multiple latrine sites may be required depending on the size of unit area and distances between patient care, administrative, and sleeping areas.

(3) *Maintenance.* Sanitation and maintenance of the MTF latrine facilities are critical to prevent disease transmission. Handwashing facilities must be placed at each latrine.

(4) *Closing and marking.* The closing and marking of latrines is accomplished according to command policy and good field sanitation practices.

G-15. Patient Facilities

As the medical company has a limited holding capability, most of the patients treated and held at the MTF are ambulatory patients. However, due to the tactical situation, inclement weather, or other contingencies, litter patients may have to be held for periods greater than 72 hours. The unit TSOP should, therefore, include instructions for both types of patients.

a. 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 holding areas for convenience of access, while still maintaining distances from the dining facilities, water sources, and the like.

b. Nonambulatory patients require the use of bedpans and urinals. Disposal of fecal material and urine and sanitation of bedpans and urinals for the nonambulatory patient is a major

concern. A designated area is established for bedpan cleaning and sanitizing. The sinks or handwashing facilities within the MTF should not be used for bedpan/urinal disposal or washing. An area should be established similar to that of a mess kit laundry line, using metal garbage cans and immersion heaters. One container must have warm soapy water, while the other container has clear boiling rinse water. These containers must be clearly marked for use in cleaning bedpans and urinals only.

Section V. WASTEWATER

G-16. General

a. Water usage results in the production of wastewater which requires disposal. Depending on the source, wastewater may contain—

- Suspended solids and particulate matter.
- Grease.
- Organic material.
- Dissolved salts.
- Biological, pathological, and pathogenic organisms.
- Toxic elements.

b. Just the volume of wastewater alone, without consideration of the various contaminants, can cause significant operational problems in the field environment.

G-17. Requirement for Disposal

a. All wastewater and water-soluble wastes generated in a field environment must be collected and disposed of in a manner that—

- Protects water resources from contamination.
- Preserves public health while minimizing mission impairment or adversely impacting on the readiness of the force.

b. When operating OCONUS, units may have to comply with applicable HN laws and procedures; this is determined by the theater commander. In an actual contingency operation, the

theater commander (with input from the command surgeon) determines the applicability of local environmental laws in the AO. Irrespective of laws and regulations, proper disposal of wastewater is essential to protect the health of the force by precluding contamination of water supplies and the development of rodent and arthropod breeding sites. Further, large volumes of wastewater in an AO can impact adversely on functions of US military units and may even aid an adversary in locating and identifying them.

G-18. Responsibility for Disposal

Units generating wastewater in the field are responsible for their own wastewater collection and disposal. However, large volume wastewater generators, such as some MTFs, may require some engineer support. Theater combat engineers provide support during OCONUS deployments or contingency operations. In any case, the unit commander has the final responsibility for coordinating disposal of his unit's wastewater.

G-19. Wastewater Sources and Collection

Medical treatment facilities generate a significant volume of wastewater corresponding to the volume of water consumed for the various functional areas. A conservative estimate of wastewater volume for planning purposes is that 80 percent of all water used (other than for human consumption) will end up as wastewater. The largest volumes of wastewater are generated by support operations of MTFs such as laundry, shower, and food service operations. While this type of wastewater is not unique to MTFs, it will contribute to an enormous volume requiring collection and disposal. On the other hand, wastewater generated from direct patient care functions is unique to the MTFs and may be contaminated with blood, other body fluids, particulate matter, and potentially infectious organisms. In addition to the quantity of wastewater, an added problem is the multiplicity of sources within the MTF that contribute to the complexity of collection.

a. Field Sinks. Field sinks are the primary source of wastewater for staff hand washing, patient hygiene, instrument cleaning, and the like. This liquid waste is generated intermittently, and the volume is highly variable depending on the functional area and patient work load. The sinks can operate with the drain line placed in an empty 5-gallon water can. This can must be periodically emptied into a disposal system. If wastewater collection cans are not used, the sinks must be connected to drains that lead to soakage pits or sewer systems; otherwise, the wastewater will collect at the immediate exterior of the MTF shelter. If not collected, the volume of wastewater will result in an unacceptable pooling throughout the MTF area.

CAUTION

Extreme care must **be taken to ensure that the 5-gallon cans used for wastewater are not mistaken or confused with the 5-gallon cans used for potable water. Clear labeling and safe-distance separations between the two are critically essential.**

b. Medical Treatment Facility Sources. Sources of wastewater other than sinks are limited and will generate relatively small volumes of wastewater. In most cases, this wastewater can be collected and discharged into a nearby sink. An exception may be the water used for facility and major equipment sanitation; for example, wastewater from washing litters, ambulances, and other medical materiel.

c. Field Showers.

(1) While not an actual part of the MTF, quartermaster field showers may be collocated with or near the MTF to support both patients and staff. These showers may also support personnel of other units within the area. The quartermaster personnel operating field showers are responsible for wastewater collection and disposal. In some situations, the disposal of this wastewater may be in conjunction with that of the MTF.

(2) If quartermaster support is not available, field expedient showers must be established by the medical company (FM 21-10 and FM21-10-1). The medical unit is responsible for the collection and disposal of this wastewater.

d. Field Laundries. The field laundry is one of the largest generators of wastewater. Field laundries may be collocated with or near MTFs to provide support and can present an inordinate wastewater disposal problem. Like the showers, quartermaster personnel operating laundries are responsible for wastewater collection and disposal. Because of the large volume of water required for laundry operations, the facility may have to be located away from an MTF and closer to a water source. In effect, this reduces or removes a portion of the wastewater disposal problem within the immediate MTF area. (Preventive medicine personnel must ensure that laundry personnel are trained in and properly implement the procedures for handling contaminated linens.)

e. Field Kitchen. Army field kitchens are also significant sources of wastewater. In addition to the volume, the grease and particulate matter in wastewater from a field kitchen must be dealt within a much more deliberate manner. For instance, grease traps must be constructed to remove food particles and grease from the kitchen wastewater before disposal. Information for the construction and operation of the filter and baffle grease traps is provided in FM 21-10 and FM 21-10-1. Also, commanders may obtain technical assistance from the supporting PVNTMED element.

G-20. Disposal of Wastewater

a. In disposing of wastewater, a number of factors should be considered. These include—

- Volume and characteristics of the waste.
- Operational considerations (duration of stay in a given location and the intensity of combat operations).

- Geological conditions (type of terrain and soil characteristics or depth of water table).
- Climatic conditions.
- Availability of engineer support.
- Accessibility of established sewage collection, treatment, and disposal systems.
- Applicability of command environmental programs.

b. In light of the above factors, there area number of wastewater disposal alternatives that an MTF commander may select. These include—

- Connection to an established sanitary sewer system.
- Collection and holding of wastewater for engineer or HN removal to a fixed wastewater treatment facility.
- Engineer-constructed semipermanent wastewater collection and disposal system.
- Unit-constructed field expedient wastewater disposal system.

c. In many OCONUS noncombat operations, especially in the more developed countries, use of existing disposal facilities should be the method of choice. Even in some contingency operations, preplanned siting of MTFs can take advantage of preestablished connections to the existing sewer system. Assistance from supporting engineers is required to establish the necessary connections and access to the sewer system. However, grease traps or filters may still have to be used in some areas, such as the dining facility. Traps and filters are required to remove grease and particulate matter that would adversely affect the operation of the wastewater pumps.

d. If use of a HN sewer system is possible but direct connection is not readily available, an alternate approach is to collect wastewater in storage containers. Then the collected wastewater can be removed to a sewage treatment plant or to a sanitary sewer system access by the supporting engineers or a HN agency. As these storage containers are not part of the MTFs TOE and the wastewater tank trucks and pumping equipment are not standard engineer equipment, this option requires extensive prior planning and coordination.

e. All AMEDD personnel are required to know how to construct and operate field expedient waste facilities. Traditional field expedient methods of wastewater disposal consist of soakage pits, soakage trenches, and/or evaporation beds. The effectiveness of these methods depends on the geological conditions and the climate. While these disposal devices, especially soakage pits, are constructed for small volumes of wastewater, with proper design and operation they can be effective for larger volumes. Because these methods result in final disposal, it is necessary to remove grease, particulate matter, and other such organic material that could reduce the effectiveness of the

process. Guidance on designs and construction of these devices is available in FM 21-10 and FM 21-10-1 and from PVNTMED personnel.

f. In arctic environments, or when geological or climatic conditions are such that soakage or evaporation is not possible, the only field expedient alternative may be to collect the wastewater in tanks or drums for removal by Army engineer or HN operators.

APPENDIX H

MEDICAL LABORATORY CAPABILITIES

H-1. General

The medical laboratory capability at Echelon II is extremely limited. This appendix provides information on the medical laboratory capabilities of Echelons II through IV MTFs.

H-2. Medical Laboratory Capabilities

Tables H-1 through H-3 depict what laboratory procedures can be accomplished at each echelon of care.

Table H-1. Medical Laboratory Procedures, Biochemistry

DESCRIPTION	AREA SUPPORT SQUAD	MASH	CSH	FH	GH
Perform blood gas analysis		X	X	X	X
Perform electrolyte level (Na, K, Cl, CO_2)		X	X	X	X
Determine total serum protein			X	X	X
Determine serum creatinine			X	X	X
Determine serum amylase			X	X	X
Determine serum AST activity			X	X	X
Determine serum ALT activity			X	X	X
Determine CK level			X	X	X
Determine serum glucose		X	X	X	X
Determine serum urea nitrogen		X	X	X	X
Determine serum T. bilirubin			X	X	X
Determine serum calcium			X	X	X
Determine CSF glucose			X	X	X
Determine CSF protein			X	X	X
Determine urine protein				X	X
Determine urine glucose				X	X

Table H-2. Medical Laboratory Procedures, Hematology / Urinalysis

DESCRIPTION	AREA SUPPORT SQUAD	MASH	CSH	FH	GH
Perform white cell count	X	X	X	X	X
Perform CBC (WBC, Hct, Gran ct, % Gran, Plt, Lymph/ Mono ct and %)		X	X	X	X
Determine hematocrit	X	X	X	X	X
Perform WBC differential	X	X	X	X	X
Perform prothrombin time (PT)			X	X	X
Perform partial thromboplastin time (APTT)			X	X	X
Perform CSF count and differential		X	X	X	X
Perform urinalysis (dipstick)	X	X	X	X	X
Perform urinalysis (microscopic)	X	X	X	X	X
Perform platelet estimate	X	X	X	X	X
Perform platelet count			X	X	X
Determine fibrinogen level				X	X
Determine fibrin split products				X	X

Table H-3. Medical Laboratory Procedures, Microbiology / Serology / Blood Bank

DESCRIPTION	AREA SUPPORT SQUAD	MASH	CSH	FH	GH
Perform occult blood test	X		X	X	X
Perform thick and thin smears for malaria	X		X	X	X
Perform gram stains	X	X	X	X	X
Perform rapid plasma reagin (RPR) (syphilis)			X	X	X
Perform IM (infectious mononucleosis) test			X	X	X
Examine feces for ova, cysts, and parasites			X	X	X
Perform potassium hydroxide (KOH) preparations			X	X	X
Perform pregnancy tests			X	X	X
Perform urine cultures (colony cts and sensitivity)			X*	X	X
Perform wound culture and sensitivity			X*	X	X
Perform blood culture and sensitivity				X	X
Perform sputum culture and sensitivity				X	X
Perform stool culture and sensitivity				X	X
Perform CSF culture and sensitivity				X	X
Perform culture and sensitivity for gonorrhea			X*	X	X
Perform throat cultures			X*	X	X
Perform microscopic exams for acid-fast bacteria				X	X
Identify anaerobes					X
Perform blood group and type (ABO, RH)		X	X	X	X
Perform blood crossmatches			X	X	X
Thaw fresh frozen plasma		X	X	X	X
Platelets concentrates			X	X	X

*Requires microbiology augmentation set A

APPENDIX I

MANAGEMENT OF INDIVIDUAL HEALTH RECORDS IN THE FIELD

I-1. General

a. This appendix provides guidance on the maintenance of the soldier's individual health record (HREC) at Echelon II medical units. The governing regulation is AR 40-66.

b. Health records are not maintained at Echelon I as there is not an MOS 71G, Patient Administrative Specialist, assigned at this echelon.

I-2. Health Records of Deployed Soldiers

a. The HREC (DA Form 3444 or DA Form 8005 series [Medical and Dental Treatment Record]) folders of deployed soldiers will not accompany them to combat areas. When processing soldiers for overseas (or intratheater/intertheater) deployment, home station MTFs and dental treatment facilities (DTFs) (supporting mobilization/deployment operations) will audit each soldier's HREC. The treatment facility will record the deploying soldier's essential health and dental care information on DA Form 8007, Individual Medical History. The DA Form 8007 is a single page document that will be prepared for every soldier in CONUS and OCONUS who is deploying. The DA Form 8007 will be initiated and/or updated during records screening. This form is intended for use until an electronic device (automated individually carried record system) that stores medical, dental, personnel, and finance data is fielded. The preparation and use of DA Form 8007 is applicable to deploying military personnel as well as civilian employees who may accompany deploying forces. During peacetime operations, units are encouraged to use DA Form 8007 during training exercises.

(1) If the HREC is not available, DA Form 8007 will be completed based on soldier interviews and any other locally available data. An HREC may not be available for many Individual Ready Reserve (IRR), Individual Mobilization Augmentees (IMAs), and retired personnel because their HRECs may be on file at the US Army Reserve Personnel Center.

(2) The completed DA Form 8007 will be provided to the soldier's command, or to the soldier if he is an individual replacement, and then handed-off to the Echelon II MTF in the AO responsible for providing primary medical treatment. That MTF will maintain the DA Form 8007 in an outpatient field file for reference, as needed. The field file will consist of, in part, DA Form 8007 and possibly SF 600 (Health Record—Chronological Record of Medical Care), SF 558 (Medical Record—Emergency Care Treatment), SF 603 (Health Record—Dental), or DD Form 1380 (US Field Medical Card).

b. Forward deployed forces are those Army forces currently deployed in areas such as Europe and Korea. When these forward deployed forces are deployed for wartime military operations (either within their current geographical location or deployed to a different location), the DA Form 8007 should be initiated as outlined in paragraphs *a* (1) and (2), above (time permitting).

c. Health records of soldiers deploying for short duration contingency operations will be retained by the servicing home station MTF and DTF providing primary care.

I-3. Primary Medical Treatment Facility

a. Definition. The term *primary medical treatment facility for deployed forces* is defined as divisional and nondivisional Echelon II medical companies and aviation medical elements. The organizations that are closest to the soldier and capable of fulfilling the *primary medical treatment facility* role include—

- Medical companies of divisional support battalions.
- Medical companies/troops of nondivisional support battalions/squadrons.
- Primary medical element of major aviation units.
- Corps and COMMZ ASMBs.

b. Areas of Responsibility. Table I-1 provides examples of supporting medical companies areas of responsibilities as *primary medical treatment facilities.*

Table I-1. Primary Medical Treatment Facility Area of Responsibility

PRIMARY MEDICAL TREATMENT FACILITY	AREA/UNITS SUPPORTED
Medical Company, Forward Support Battalion	All divisional units assigned within a brigade AO inclusive of brigade headquarters, maneuver battalions/companies, DISCOM units, and artillery/engineer units.
Medical Company, Main Support Battalion	All divisional units operating within the DSA (less divisional aviation brigade units).
Medical Company, Support Battalion/ Squadron, Separate Brigade/ Armored Cavalry Regiment	All troops assigned in the brigade/ regiment support area, brigade/ regiment headquarters, maneuver battalions/squadrons, companies/troops.
Headquarters and Support Company, Area Support Medical Battalion	Designated corps/COMMZ units, population 5,000.
Area Support Medical Company Area Support Medical Battalion	Designated corps/COMMZ units, population 5,000.
Echelons I/II Medical Elements, SOF	Designated SOF units.

1-4. Storage of Individual Health Records

Forward deployed (Echelon II) medical units will secure field chests or field file containers in quantities sufficient for the troop population supported. The medical company will establish a drop (loose forms maintained in an open envelop) file on each soldier assigned within the area supported.

I-5. Establishment and Management of the Field File in the Operational Area

a. A copy of DA Form 8007 and other medical records on individuals assigned within a given area will be handed off to the supporting primary MTF and maintained in a drop file.

b. Supported units will be required to provide the primary MTF a battle roster of personnel assigned. This roster should be provided when personnel assignment changes are made or upon request.

c. The MTF, when possible, will attempt to ensure that the HREC accompanies the medically evacuated soldier.

d. If a soldier's primary MTF changes, the HREC will be transferred to the gaining MTF.

e. If a soldier requires hospital admission, every attempt will be made to forward the HREC to the admitting hospital.

f When the MTF determines that an individual is no longer assigned within its AO, then the soldier's HREC will be closed out and forwarded to the supporting medical brigade/medical group headquarters for disposition. The medical brigade/medical group will, in turn, forward the HREC to an in-theater hospital where the patient is located, or forward it to the CONUS-based US Total Army Personnel Agency.

I-6. Operations After Hostilities Cease

After cessation of hostilities, field HRECs will be integrated with the HREC at the home station or the mobilization station.

APPENDIX J

CONVOY OPERATIONS

Section I. CONVOY PROCEDURES

J-1. General

a. When the medical company is required to relocate, extensive planning, coordination, and preparation for the move is required. The more comprehensive the plan for the relocation, the more smoothly the operation will run. Conducting a convoy is one of the activities required during a unit relocation. It requires skilled leadership, thorough planning, and strict discipline to be successfully accomplished.

b. The medical company may be required to conduct a convoy on its own without other units present, or it may be included in a convoy with other CSS units. When included in a convoy with other units, the medical company benefits from the protection afforded by those other units. When conducting a convoy with only medical assets, the medical personnel must be prepared to provide for their own defense.

c. Procedures for establishing and conducting a convoy should be standardized in the TSOP. However, if the medical company is located in the division or corps rear area, it is imperative that any such move be coordinated with the rear operations cell in the rear CP. Further, proper route authorization (convoy clearance) must be obtained from the movement control center (MCC).

d. For additional information on conducting convoy operations, refer to FM 55-30.

J-2. Definition of Terms

Terminology used in conducting convoy operations includes—

a. Convoy. A convoy is a group of vehicles organized for the purpose of control under a single commander. The number of vehicles constituting a convoy is determined by the division/corps commander based on the METT-T.

b. Organizational Elements. A small convoy presents few organizational problems. As the number of vehicles increases, so does the need to structure the convoy into manageable subelements. These subelements include—

- *March column.* For all practical purposes, the march column is the convoy.
- *Serial.* The march column is subdivided into serials. Each serial is commanded by a serial commander. A company-sized unit may be designated as a serial.
- *March unit.* For better control, a large serial may be further divided into two or more march units. The march unit is commanded by a march unit commander who is responsible to the serial commander. The march unit is the smallest organized subgroup of the convoy and should be organized to correspond to a small troop unit, such as a platoon or squad.

- *Time gaps.* Gaps of time are established between serials and between march units so that they retain their subunit integrity. There is no set time gap; however, as a guide, the following time periods may be used:
  - Serial time gap: 10–20 minutes.
  - March unit time gap: 3–5 minutes.

c. *Functional Elements.* In addition to organizational elements, there are a number of functional elements that apply to all convoys, regardless of size. For a small convoy, there would only be one of each functional element. For larger convoys, each march unit should be organized as follows:

- *Head.* The first or leading task vehicle is the head and contains the officer or NCO designated by the commander as the pace setter. The pace setter is responsible for ensuring that the march unit keeps on the correct route and maintains the correct pace to achieve the rate of march for the convoy.
- *Trail.* Each march unit should have its own trail which would normally be no more than a limited recovery capability, such as a vehicle equipped with a tow bar. At the end of the march column there should be provisions for the larger administrative functions for the column, such as:
  - Collection of stragglers.
  - Combat health support.
  - Road guide recovery.
  - Fuel, maintenance, and recovery.
- *Trail party. The* trail party for the column is commanded by the trail officer or a trail maintenance officer.

J-3. Loading Plans

To ensure the efficient use of space within unit vehicles and to identify where specific pieces of equipment and supplies are placed within the convoy, comprehensive loading plans are required. Once developed, these plans should be executed exactly as planned.

J-4. Route Reconnaissance

a. During the planning stage and prior to the departure of the convoy, the commander conducts a map reconnaissance of the proposed route. This reconnaissance includes identifying—

- Start point (SP).
- Locations of friendly units.
- Known or suspected locations of hostile forces.
- Potential ambush sites.
- Check points.
- Release point (RP).

b. Prior to conducting the ground reconnaissance, updated intelligence should be obtained from the battalion S2. He may have access to visual or photographic reconnaissance information on the subject area.

c. Once the map reconnaissance is completed, a team is selected to conduct a reconnaissance of the proposed route. Procedures to be taken and information to be obtained from this reconnaissance include—

- Assuming the designated MOPP level.
- Activating automatic chemical alarms.
- Monitoring radiation detection/monitoring devices.
- Verifying map information.
- Identifying the roads, to include type of road (major road network [rural or trail]; type of and condition of surface; number of lanes; locations for possible check points; distances between features and areas; and accessibility [entrance and exit points] and whether there are sharp turns or other adverse characteristics).
- Listing height, width, and weight restrictions of roads, bridges, underpasses, and overpasses.
- Listing locations of culverts, ferries, fording areas, steep grades, obstacles, mine fields, barriers, arid possible ambush sites.
- Identifying areas for field feeding.
- Preparing overlays.
- Computing travel time.
- Preparing strip maps.

d. An aerial reconnaissance can be conducted if security, the tactical situation, or time do not permit a ground reconnaissance. This type of recormaissance provides the commander with a better overview of the route, but does not yield the level of detail a ground reconnaissance would.

J-5. Coordination for External Support

To successfully accomplish the convoy mission, the convoy should be as self-reliant as possible. If the distance to be covered is relatively short, this presents no major problems. However, as distance and time factors increase, assistance from other sources may be required. During the planning stage for the convoy operation, coordination with higher headquarters may be required in the following areas:

- Security (military police and/or air cover).
- Refueling (may be required depending upon distance to be traveled).
- Engineer support.
- Maintenance and salvage of vehicles.
- Medical evacuation support.
- Field services.

J-6. Vehicle Preparation

a. Prior to beginning the convoy, all vehicles which will participate should be thoroughly inspected and tested. Minor deficiencies should be corrected as quickly as possible. Major deficiencies should be reported, required parts requisitioned, and deficiencies corrected.

b. Other vehicle preparation activities include—

- Hardening vehicles with available materials such as sandbags.
- Covering reflective surfaces.
- Placing antennas at the lowest height.
- Turning radio volumes and squelches to lowest setting consistent with operational requirements.
- Ensuring that vehicles have fire extinguishers that are sealed and charged.
- Ensuring that vehicles are not overloaded (the weight and cube are within limits).

c. When a medical unit relocates (by itself) using a convoy, the vehicles should be properly marked with the emblem of the Geneva Conventions; this emblem provides a measure of security for the convoy. Camouflaging vehicles is done only when specific orders are given to do so. For information concerning display of the red cross emblem and the camouflaging of medical vehicles in relation to the Geneva Conventions, refer to Appendix A and FM 8-10.

J-7. Convoy Commander's Responsibilities

a. The convoy commander may be the unit commander or someone designated by the commander to be responsible for conducting the convoy. In convoys made up of more than one unit, the convoy commander may not be an individual assigned to the medical company. When the unit is moved in echelons, the unit commander cannot be present in each of the echelons.

b. A manifest for each vehicle is provided to the convoy commander. The manifest provides the information required to organize the convoy. As a minimum, the manifest should contain—

- Bumper numbers by unit.
- Names of the driver and assistant driver.
- Names of passengers.
- Cargo.

c. The convoy commander is responsible for organizing the convoy and for the positioning of the vehicles. He also—

- Assigns control vehicles throughout the convoy without setting an established pattern.
- Assigns recovery vehicles positions.
- Assigns hardened vehicles near the head of the convoy.
- Assigns passenger locations.
- Assigns air guards.
- Organizes the trail party element.
- Provides vehicle position listing to the trail party leader.

d. The convoy commander briefs convoy personnel (especially vehicle drivers) on logistical and tactical information. Refer to paragraph J-8.

e. The convoy commander is responsible for ensuring that the lead vehicle crosses the SP at the appointed time. He then verifies that all of the other convoy vehicles cross the SP. Once the last vehicle passes, he forwards a crossing report to his higher headquarters. Other reports the convoy commander must forward (using the correct SOI procedures) to his higher headquarters are on checkpoint clearances, on any information which conflicts with the maps being used, and on any detection of NBC hazards.

J-8. Driver Briefing

Prior to departing the assembly area, the drivers of each vehicle in the convoy are briefed and provided a strip map or highlighted road map. The briefing should contain information concerning both logistical and tactical matters.

a. Logistical Information.

- Destination.
- Route.
- Rate of march and catch-up speed.
- Vehicle intervals.
- Chain of command for convoy operations.
- Start point.
- Release points and arrangements made for them.
- Critical points and checkpoints.
- Maintenance procedures (routine and emergency).
- Location of refueling points.
- Visual signals.
- Radio listening/silence instructions.
- Location of scheduled halts.
- Driving safety.
- Accident reporting.
- Special procedures for driving at night, such as the use of NVGs.

- Procedures for traveling during blackout conditions, to include ground guides.

b. *Tactical Information.*

- Update on the tactical situation and areas of suspected enemy activity.
- Actions taken in case of—
  - Air attack.
  - Sniper fire.
  - Ambush.
  - Nuclear, biological, or chemical attack.
- Actions taken to protect unit personnel, equipment, and supplies.

J-9. March Procedures

At the SP, the vehicles and drivers come under the control of the convoy commander. The convoy commander is responsible for keeping the convoy on the schedule agreed upon in the planning phase.

a. *Rate of March.* The rate of march depends on the TSOP, local conditions, and the speed capability of the slowest vehicle in the convoy. It may also depend on the distance to be covered by the convoy. Convoy speeds normally range between 15 and 20 miles per hour, while catch-up speeds are 25 to 30 miles per hour. The rate of march, however, may be affected by grades, sharp curves, or urban areas, visibility and road conditions, and the training and experience of the drivers.

(1) Table J-1 provides the time-distance statistics for selected vehicle speeds.

(2) The formulas in Table J-2 shows how to plan your march rate.

b. *Vehicle Intervals, The* vehicle interval is the distance that should be kept between each vehicle, The interval depends on the type of formation the convoy is using. There are three formations that may be used. Each type has its advantages and disadvantages.

(1) The closed column keeps vehicles as close as possible, leaving only enough space to avoid accidents. It is used most often in blackout marches and in times of poor visibility. In daylight, the closed column requires fewer guides, escorts, and markers. However, it should not be used in daylight in a CZ since the close spacing between the vehicles makes the convoy a lucrative target for the enemy. Further, upon reaching the RP, it may cause congestion on the road and slow traffic down.

Table J-1. Time-Distance Table for Selected Vehicle Speeds

TRAVEL TIME[1]							
		RATE		RATE		RATE	
DISTANCE		10 MPH (7.5 MIH) 16 KPH (12 KIH)		20 MPH (15 MIH) 32 KPH (24 KIH)		30 MPH (25 MIH) 48 KPH (40 KIH)	
Km	Mi	Hr	Min	Hr	Min	Hr	Min
1		0	5	0	2.5	0	1.5
	1	0	8	0	4	0	2.4
2		0	10	0	5	0	3
3		0	15	0	7.5	0	4.5
	2	0	16	0	8	0	4.8
4		0	20	0	10	0	6
	3	0	24	0	12	0	7.2
5		0	25	0	12.5	0	7.5
6		0	30	0	15	0	9
	4	0	32	0	16	0	9.6
7		0	35	0	17.5	0	10.5
8		0	40	0	20	0	12
	5	0	40	0	20	0	12
9		0	45	0	22.5	0	13.5
	6	0	48	0	24	0	14.4
10		0	50	0	25	0	15
	7	0	56	0	28	0	16.8
	8	1	4	0	32	0	19.2
	9	1	12	0	36	0	21.6
	10	1	20	0	40	0	24
20		1	40	0	50	0	30
30		2	30	1	15	0	45
	20	2	40	1	20	0	48
40		3	20	1	40	1	0
	30	4	0	2	0	1	12
50		4	10	2	5	1	15
	40	5	20	2	40	1	36
	50	6	40	3	20	2	0

[1]The MPH (miles per hour) figure indicates vehicle speed and the MIH (miles in the hour) figure indicates the rate of march for that speed. The KPH (kilometers per hour) figure indicates vehicle speed and the KIH (kilometers in the hour) indicates the rate of march for that speed.

(2) The open column puts the vehicles farther apart. This allows the vehicles to travel faster on the highways. It is best used through areas where there is enemy action or where road conditions are bad.

Table J-2. Rate of March Formulas

Use rate of march formulas to find the distance (D), rate (R), and time (T) it will take the convoy to reach its destination:

$D = RT$	Distance equals the rate multiplied by the time.
$T = \frac{D}{R}$	Time equals the distance divided by the rate.
$R = \frac{D}{T}$	Rate equals the distance divided by time.

This means if you must go 100 miles and you must arrive within 5 hours, you must average at least 20 miles per hour.

(3) The infiltration method has the vehicles leave the SP, one at a time or in small groups of various sizes. This affords the maximum security and deception. The interval depends on the rate of march and the speed at which the vehicles will be traveling. This method affords the best passive defense against observation and attack. However, it does take longer to complete than the other two methods. Further, it results in the convoy being harder to control and protect because of the increased interval distances. Other disadvantages include the following:

- Drivers get lost.
- Specific details must be given to each driver.
- Maintenance, refueling, and field feeding are difficult to arrange.
- Vehicles may bunch up causing columns to form.
- Inexperienced drivers (experienced drivers are required).
- Orders are not easily changed.
- Difficulty redeploying as a unit until all vehicles arrive at the destination.

c. Halts. There are two types of halts that may occur during convoy operations. These are scheduled and unscheduled halts.

(1) Halts may be scheduled for a number of reasons, such as refueling, rest, or routine maintenance. For a scheduled halt, the vehicles stop at the time and location planned, the prescribed intervals between vehicles are maintained, and the vehicles are moved off the road. During these stops, the drivers perform preventive maintenance checks and services (PMCS) and inspect the vehicle loads to ensure they have not shifted. Local security is established until the convoy departs. The location for the halts should be selected when map and route reconnaissance takes place. The area selected should—

- Be big enough for the convoy to pull into.
- Have unimpeded visibility of at least 200 yards at each end of the convoy.
- Have no curves or grades that interfere with the field of view.

(2) When an unscheduled halt occurs, the convoy commander alerts the march column. He then reports the halt to the higher headquarters. As with a scheduled halt, the vehicle intervals are maintained and local security is established. When the march is resumed, the commander notifies his higher headquarters.

d. Refueling. As a rule, you can schedule refueling for your night halts since most vehicles can travel farther (about 300 miles) on a tank of gas than the convoy will move in one day.

(1) Each vehicle should have two filled 5-gallon gas cans. The fuel could be used to refuel during short halts, but it is better to save it for an emergency.

(2) Vehicles may be able to carry enough 5-gallon cans for daily refueling. If not, a vehicle near the rear may move forward during long halts and drop off filled cans, When the driver gets to the head of the convoy, he turns around and goes back, picking up the empties on the way.

(3) External refueling support may also be used. Coordination for location and time must be accomplished prior to the start of the convoy.

e. Communications. Radio communications must conform with SOI and COMSEC procedures. For communications within the convoy, hand and arm signals, panels, and markers may be used, All drivers should be thoroughly briefed on the hand and arm signals which will be used.

f. Night Operations. When convoy operations occur at night, the procedures will vary slightly from the procedures used during daylight convoys. A period of adjustment is required for drivers to adapt to night driving conditions (night vision). If the convoy is required to move under blackout conditions, significant changes must be made in the procedures.

- Lower the speed of the vehicles and tighten up the vehicle intervals.
- Use the blackout lights on the vehicles. Each vehicle has marker lights, taillights, front lights, and a driving light, The marker lights do not light up the road, but they do pinpoint the

vehicle's position from up to 230 meters away. They cannot be seen from an altitude of more than 120 meters.

- Ensure that security personnel are alert as the convoy is more vulnerable to attack because of the shorter interval and the rate of march. Further, the driver will be concentrating on the vehicle in front of him and the one to the rear of him and will not be as alert for security purposes.
- Put the windshield down if possible.
- Ensure blackout lights are working.
- Ensure drivers are trained to drive under blackout conditions.

g. Defense. Although medical units displaying the emblem of the Geneva Conventions (red cross) are protected against intentional attack, convoy personnel must be prepared to defend themselves. The best defense is keeping the enemy from knowing where the unit is and where it is going. When traveling, the driver should—

- Keep on the lookout for mines and booby traps. (Watch the local people as they may drive or walk carefully around mines.)
- Drive in the tracks of the vehicle in front.
- Drive on the body of the road and not on the shoulder, in the grass, or over brush or piles of fresh dirt.
- Be alert for ambushes and snipers, and if attacked, clear the kill zone as quickly as possible.
- Be alert for attacks by aircraft.

J-10. Combat Health Support During Convoy Operations

Depending upon the size of the convoy, at least one medical vehicle should be designated for emergency treatment. If the convoy is long and subdivided into serials with gap times of 20 minutes between serials, it may be necessary to designate a treatment vehicle in each serial. The treatment vehicle can be any vehicle that is large enough to carry the trauma treatment MES.

b. Routine sick call is not accomplished during a convoy. Only acute illnesses, traumatic injuries, and wounds are treated. If the illness, injury, or wound is of a serious nature, the patient is treated, stabilized, and evacuated. The preferred means of evacuation is by air ambulance. Coordination for this support is made prior to the start of the convoy operation.

This section implements STANAG 2174.

Section II. ROAD SIGNS

J-11. General

The military police are responsible for MSRs. They mark the routes in accordance with FM 19-4 and STANAG 2174. All drivers must be familiar with the signs used.

J-12. Types of Routes

a. *Main Supply Routes.* There are two types of MSRs—axial and lateral—in a TO.

(1) *Axial main supply routes.* Axial MSRs run to and from the forward edge of the battle area (FEBA) and are identified by odd numbers.

(2) *Lateral main supply routes.* Lateral MSRs run parallel to the FEBA and are identified by even numbers.

b. *Link Routes.* A link route connects a unit or an activity to an MSR. A departing convoy follows the link-route signs to the MSR. The convoy then follows the MSR until guided off the MSR by signs warning the need to exit and again follow link-route signs until arriving at its destination. The part of a traveled route coinciding with an MSR will not have link-route signs.

J-13. Signs

a. *Main Supply Routes.* The signs used on MSRs are depicted in Table J-3.

b. *Link Routes.* A prescribed format for a link-route sign is not established; however, sometimes showing direction with a white arrow on a black background is enough.

Table J-3. Signs Identifying Military Routes and Locations

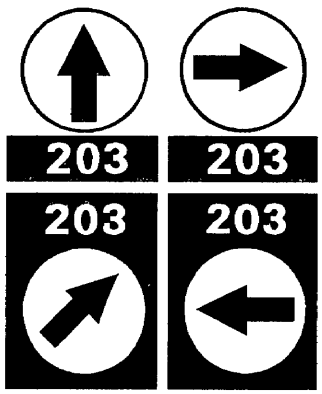
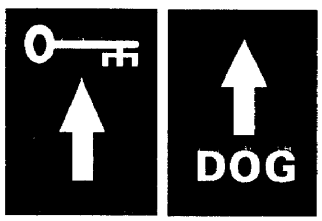
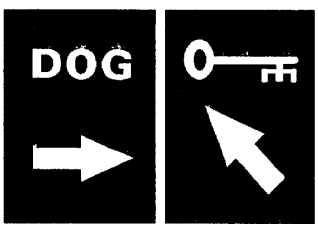
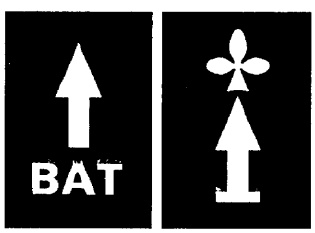
TYPE	EXAMPLES	DESCRIPTION	PURPOSE	PLACEMENT
DIRECTION INDICATOR		WHITE, 30-CENTIMETER DIAMETER DISK WITH BLACK DIRECTIONAL ARROW; ID NUMBER OR NAME IS MOUNTED BELOW DISK. OR WHITE DISK ON BLACK RECTANGULAR BOARD.	INDICATES DIRECTION; IDENTIFIES ROUTE OR NAME.	AT INTERSECTIONS WHERE ROADS MERGE AND WHERE ROUTES SEPARATE.
GUIDE SIGNS SIGNS USED TOGETHER AT IMPORTANT ROAD JUNCTIONS.		RECTANGULAR; SYMBOLS IN WHITE ON BLACK BACKGROUND; INCLUDES DIRECTIONAL ARROW AND ROUTE NUMBER, NAME, AND/OR SYMBOL.	INDICATES LOCATIONS, DISTANCES, DIRECTIONS, ROUTES.	WHERE NEEDED.
WARNING SIGNS SIGNS USED TOGETHER AT IMPORTANT ROAD JUNCTIONS.		SAME AS ABOVE.	SHOWS CORRECT DIRECTION TO TAKE AT ROUTE JUNCTIONS.	A SUFFICIENT DISTANCE (50-100 METERS) BEFORE A JUNCTION TO ALLOW DRIVERS TO MAKE THE TURN SAFELY. ON ROADS WHERE SPEED IS RESTRICTED, SIGNS MAY BE PLACED 25 METERS BEFORE JUNCTION.
CONFIDENCE SIGNS		SAME AS ABOVE.	REASSURES DRIVERS THAT THEY ARE STILL ON THE CORRECT ROUTE. USED IN URBAN AREAS TO ASSURE DRIVERS THAT THEY ARE FOLLOWING THE CORRECT ROUTE. ALSO USED ON LONG STRETCHES OF ROAD WHERE IT IS UNNECESSARY TO USE WARNING AND CONFIRMATION SIGNS FOR A CONSIDERABLE DISTANCE.	WHERE NEEDED.

Table J-3. Signs Identifying Military Routes and Locations (Continued)

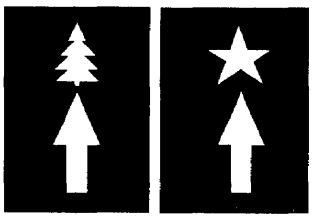
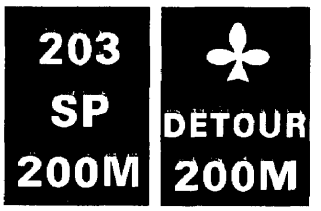
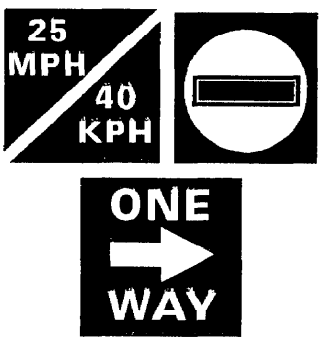
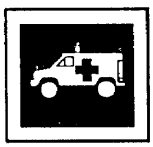
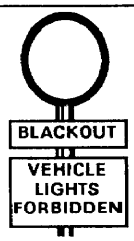
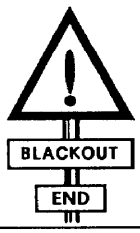
TYPE	EXAMPLES	DESCRIPTION	PURPOSE	PLACEMENT
CONFIRMATION SIGNS		RECTANGULAR; SYMBOLS IN WHITE ON BLACK BACKGROUND; INCLUDES DIRECTIONAL ARROW AND ROUTE NUMBER, NAME, AND/OR SYMBOL.	LETS DRIVERS KNOW THEY ARE ON CORRECT ROUTE AFTER CHANGING DIRECTION.	JUST AFTER TURNS, BUT VISIBLE WHILE MAKING TURN (IF POSSIBLE).
COUNTDOWN SIGNS			WARNS OF SIGNIFICANT LOCATIONS: START POINTS, RELEASE POINTS, BEGINNINGS AND ENDS OF ROUTES, LINK ROUTES, MSR JUNCTIONS, AND BLACKOUT AREAS. ANYTHING REQUIRING A MAJOR CHANGE TO MOVEMENT.	SERIES OF 3 SIGNS AT 100-METER INTERVALS BEFORE THE DESIGNATED LOCATION.
REGULATORY SIGNS		MILITARY EQUIVALENT OF CIVILIAN SIGNS LIKE STOP AND YIELD.	REGULATES AND CONTROLS TRAFFIC ON A ROUTE.	WHERE NEEDED. POSTED BY ENGINEERS AND CONSIDERED PERMANENT.
HAZARD SIGNS		YELLOW, DIAMOND-SHAPED BACKGROUND WITH INFO PRINTED IN BLACK.	INDICATES TRAFFIC HAZARDS: DANGEROUS CORNERS, STEEP HILLS, CROSSROADS. RARELY USED IN COMMZ AS CIVILIAN SIGNS USUALLY SUFFICE; MILITARY SIGNS WILL BE USED IN COMBAT ZONE.	WHERE NEEDED. POSTED BY ENGINEERS AND CONSIDERED PERMANENT.

Table J-3. Signs Identifying Military Routes and Locations (Continued)

TYPE	EXAMPLES	DESCRIPTION	PURPOSE	PLACEMENT
MILITARY CASUALTY EVACUATION ROUTE SIGNS	 TRAFFIC STRAIGHT ON (FOR ALL NATIONS EXCEPT TURKEY)  TRAFFIC STRAIGHT ON (FOR ALL TURKISH MEDICAL UNITS)	RECTANGULAR WHITE BACKGROUND WITH RED DIRECTIONAL ARROW, CROSS, OR CRESCENT; WORD MILITARY; UNIT OR SUBUNIT DESIGNATION; AND OTHER INFORMATION LIKE UNIT OR NATIONAL MARKINGS. OR DIRECTIONAL DISK WITH 4 SEGMENTS CUT OUT TO FORM A CROSS, OR DIRECTIONAL DISK WITH A CRESCENT CUT OUT. INCLUDE SAME INFORMATION.	INDICATES EVACUATION ROUTE FOR MILITARY CASUALTIES.	WHERE NEEDED.
CIVILIAN CASUALTY EVACUATION ROUTE SIGNS	 CIVILIAN CASUALTY EVACUATION ROUTE  CIVILIAN CASUALTY 5KM	BLUE GENEVA CONVENTIONS INFO SIGN. INCLUDES AMBULANCE IN WHITE WITH RED CROSS OR CRESCENT. INCLUDES WORDS CIVILIAN CASUALTY EVACUATION ROUTE BENEATH SIGN IN HOST NATION LANGUAGE.	INDICATES CIVILIAN CASUALTY EVACUATION ROUTES.	ALONG ROUTES FOR CIVILIAN TRAFFIC. DESIGNATED BY HOST NATION.
BLACKOUT WARNING SIGNS		BASED ON GENEVA CONVENTIONS HAZARD WARNING SIGN. LEGEND AND DISTANCE ON RECTANGULAR PLAQUE BENEATH WARNING SIGN.	INDICATES BEGINNING OF BLACKOUT AREA.	SAME AS WARNING SIGNS.
BLACKOUT ENFORCEMENT SIGNS		GENEVA CONVENTIONS PROHIBITORY SIGN; PLAQUE BENEATH SAYS VEHICLE LIGHTS FORBIDDEN.	INDICATES A BLACKOUT IS IN EFFECT.	EVERY 100 METERS ALONG THE BLACKOUT ROUTE.
BLACKOUT RELAXATION SIGNS		SAME AS BLACKOUT WARNING SIGN.	INDICATES END OF BLACKOUT AREA.	AT THE END OF THE BLACKOUT ROUTE.

APPENDIX K

PATIENT DECONTAMINATION PROCEDURES

K-1. Prepare Patient Decontamination Chlorine Solutions

The standard skin decontamination kits are the M258A1 and the M291. A chlorine solution is an alternative decontamination agent; however, the chlorine solution must be prepared. Two concentrations of the chlorine solution are required. A 5 percent solution is required to decontaminate gloves, aprons, litters, scissors, the patient's mask hood, and other nonskin contact surfaces. A 0.5 (1/2) percent solution is required to decontaminate the patient's mask, skin, and splints, and to irrigate wounds. To prepare the solutions, calcium hypochlorite (HTH) granules (supplied in 6-ounce jars in the patient decontamination MES) or sodium hypochlorite (household bleach) may be used. Prepare the required concentrations as shown in Table K-1.

Table K-1. Preparation of Chlorine Solution for Patient Decontamination

HTH OUNCES	HTH MRE SPOONFULS	HOUSEHOLD BLEACH	PERCENT IN 5 GALLONS OF WATER
6	*5	2 quarts	0.5
48	35	**	5.0

*To measure this preparation, use the plastic spoon supplied with your MRE. The amount of chlorine to be used is a heaping spoonful (that is all that the spoon will hold. Do not shake any granules off the spoon before adding to the water).
**Do not dilute in water, household bleach is a 5 percent solution.

K-2. Decontaminate a Chemical Agent Litter Patient

Most patients must be decontaminated before they receive medical treatment; they are decontaminated by the patient decontamination team. Decontaminate a litter patient as follows:

NOTE

1. Bandage scissors are used in this procedure. They are placed in a container of 5 percent chlorine solution between uses. To remove thickened agents, scrub the scissors with a sponge dipped in the 5 percent solution.
2. Use the ABC-M8VGH (M8) detector paper or the Chemical Agent Monitor (CAM) to determine the extent of contamination on each patient before beginning decontamination procedures. Some patients may have already been decontaminated.
3. For treatment procedures, refer to FM 8-9, FM 8-33, FM 8-285, and the NATO Emergency War Surgery Handbook.

a. Step 1: Decontaminate the Patient's Mask and Hood.

(1) Move the patient to the clothing removal station. After the patient has been triaged and treated (if necessary) by the senior medic in the patient decontamination area, he is moved to the litter stands at the clothing removal station.

(2) Decontaminate the mask and hood. Use the M291 or M258A1 Skin Decontamination Kit; or sponge down the front, sides, and top of the mask hood with a 5 percent chlorine solution.

(3) Remove the hood. Remove the hood by cutting the M6A2 hood (see Figure K-1), or by loosening the hood from the mask attachment points for the Quick Doff Hood or other similar hoods. Before cutting the hood, dip the scissors in a 5 percent chlorine solution. Then cut the neck cord and the small string under the voicemitter. Next, release or cut the hood shoulder straps and unzip the hood zipper. Proceed by cutting the hood upward, close to the filter inlet cover and eye lens outsert, upward to the top of the eye outsert, and across the forehead to the outer edge of the other eye lens outsert. Proceed downward toward the patient's shoulder staying close to the eye lens and filter inlet cover, then across the lower part of the voice mitter to the zipper. After dipping the scissors in the chlorine solution, cut the hood from the center of the forehead over the top of the head and fold the left and right sides of the hood to the side of the patient's head, laying the sides of the hood on the litter.

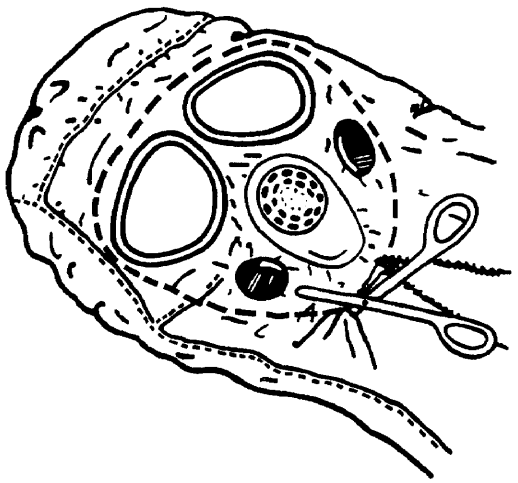


Figure K-1. Cutting the M6A2 protective mask hood.

(4) Decontaminate the protective mask and face. Using the pads from the M291 kit, the wipes from the M258A1 kit, or a 0.5 percent chlorine solution, wipe the external parts of the mask, Cover both mask air inlets with gauze or your hand to keep the mask filters dry. Continue by wiping the exposed areas of the patient's face, to include the neck and behind the ears.

(5) Remove the Field Medical Card. Cut the patient's FMC tie wire, allowing the FMC to fall into a plastic bag. Seal the plastic bag and rinse the outside of the bag with a 0.5 percent chlorine solution. Place the plastic bag with the FMC under the back of the protective mask head straps.

b. Step 2: *Remove Gross Contamination.* Remove all gross contamination from the patient's overgarment by wiping all visible contamination spots with a 5 percent chlorine solution, M291 pads, or wipes from the M258A1 kit. Decontaminate the mask by—

- Using the 0.5 percent chlorine solution, OR
- Using the M291 pad on the exterior and interior of the mask, OR
- Using the M258A1 wipe 1, then wipe 2 for the exterior of the mask; using wipe 2, then wipe 1 for the interior of the mask.

c. Step 3: *Remove the Patient's Protective Overgarment and Personal Effects.*

(1) Cut the patient's overgarment. The overgarment jacket and trousers are cut simultaneously. Two persons will be cutting clothing at the same time. Cut clothing around bandages, tourniquets, and splints.

CAUTION

Bandages may have been applied to control severe bleeding and are treated like tourniquets. Bandages, tourniquets, and splints are removed only by medical personnel.

(a) Remove overgarment jacket. Make two cuts, one up each sleeve from the wrist area of the sleeves, up to the armpits, and then to the collar (Figure K-2). Do not allow the gloves to touch the patient along the cut line. Dip the scissors in the 5 percent chlorine solution before making each cut to prevent contamination of the patient's uniform or underclothing. Keep the cuts close to the inside of the arms so that most of the sleeve material can be folded outward. Unzip the jacket; roll the chest sections to the respective sides with the inner surface outward. Continue by tucking the clothing between the arm and chest.

(b) Remove the overgarment trousers. Cut both trouser legs, starting at the ankle as shown in Figure K-3. Keep the cuts near the inseams to the crotch. With the left leg, continue cutting to the waist, avoiding the pockets. With the right leg, cut across at the crotch and join the left leg cut. Place the scissors in the 5 percent chlorine solution. Fold the cut trouser halves away from the patient and allow the halves to drop to the litter with contaminated side (outside) down, Roll the inner leg portion under and between the legs.

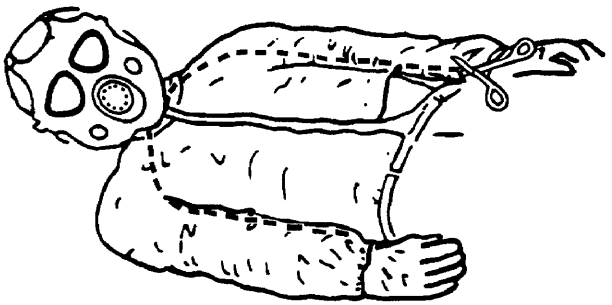


Figure K-2. Cutting the overgarment jacket.

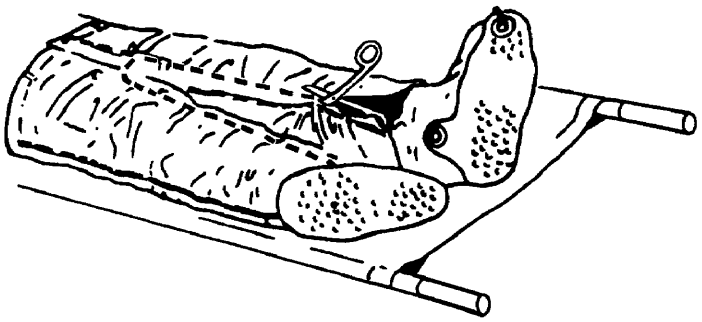


Figure K-3. Cutting the overgarment trousers.

(2) Remove outer gloves. This procedure can be done with one person on each side of the patient working simultaneously. If the patient's condition permits, lift his arms by grasping his gloves (Figure K-4) and roll the overgarment sleeve material away from the patient as you lift. While holding the patient's arms up, grasp the jacket material near the zipper and fold it away from the patient. Grasp the fingers of the glove, roll the cuff over the fingers, turning the glove inside out. Do not remove the inner cotton gloves at this time. Carefully lower his arms across his chest after the gloves have been removed. Do not allow the patient's arms to come into contact with the exterior of his overgarment. Drop his gloves into the contaminated waste bag. Dip your gloves in the 5 percent chlorine solution.

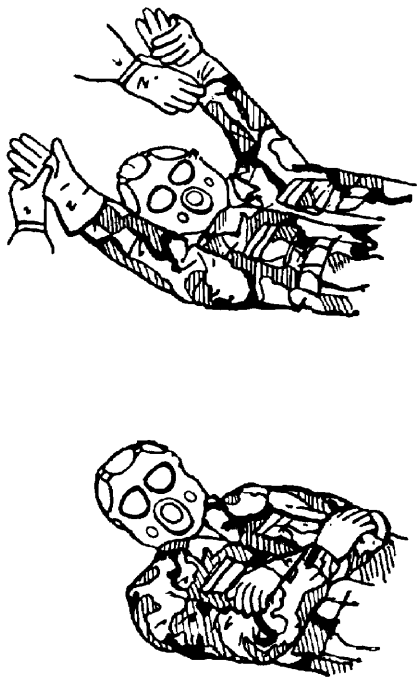


Figure K-4. Removing outer gloves and positioning arms after glove removal.

(3) Remove the overboots. Cut the overboot laces and fold the lacing eyelets flat outwards. If the green overboot is worn, first try to remove the overboot without cutting; if necessary, cut the boot along the front. While standing at the foot of the litter, hold the heel with one hand, pull the overboot downwards, then pull towards you to remove the overboot over the combat boot heel. If the two overboots are removed simultaneously, this will reduce the likelihood of contaminating one of the combat boots. While holding the heels off the litter, have a decontamination team member wipe the end of the litter with the 5 percent chlorine solution to neutralize any liquid contamination that was transferred to the litter from the overboots. Lower the patient's heels onto the decontaminated litter. Place the overboots in the contaminated waste bag.

(4) Remove the patient's personal effects. Remove the patient's personal effects from his protective overgarment and battle-dress uniform pockets. Place the articles in a plastic bag, label with patient's identification, and seal the bag. If the articles are not contaminated, they are returned to the patient. If the articles are contaminated, place them in the contaminated holding area until they can be decontaminated, then return them to the patient.

d. Step 4: Remove the Patient's Battle-Dress Uniform.

(1) Remove the combat boots. Cut the boot laces along the tongue. Remove the boots by pulling them towards you. Place the boots in the contaminated waste bag. Do not touch the patient's skin with contaminated gloves when removing his boots.

(2) Remove inner clothing. Follow the procedures for cutting away the protective overgarment and rolling it away from the patient. If the patient is wearing a brassiere, it is cut between the cups; both shoulder straps are cut where they attach to the cups and are laid back off the shoulders. Remove the socks and cotton gloves.

e. Step 5: Transfer the Patient to a Decontamination Litter. After the patient's clothing has been cut away, he is transferred to a decontamination litter, or a canvas litter with a plastic sheeting cover. Three decontamination team members decontaminate their gloves and apron with the 5 percent chlorine solution. One member places his hands under the small of the patient's legs and thighs; a second member places his arms under the patient's back and buttocks; and the third member places his arms under the patient's shoulders and supports the head and neck. They carefully lift the patient using their knees, not their back, to minimize back strain. While the patient is elevated, another decontamination team member removes the litter from the litter stands and another member replaces it with a decontaminated (clean) litter.The patient is carefully lowered onto the clean litter. Two decontamination team members carry the litter to the skin decontamination station. The contaminated clothing and overgarments are placed in bags and moved to the decontaminated waste dump. The dirty litter is rinsed with the 5 percent decontamination solution and placed in a litter storage area. Decontaminated litters are returned by ambulance to the maneuver units.

NOTE

Before obtaining another patient, the decontamination team drinks approximately 1/2 cup of water. The amount consumed is increased or decreased according to the work level and the temperature.

f. Step 6: Skin Decontamination.

(1) Spot decontamination. With the patient in a supine position, spot decontaminate the skin using the M291/M258A1 kit or a 0.5 percent chlorine solution. Decontaminate areas of potential contamination, particularly tears or holes in the protective ensemble; other areas include the neck, wrists, and lower parts of the face.

(2) Aidman care. During clothing removal, the clothing around bandages, tourniquets, and splints was cut and left in place.

(a) The aidman will replace the old tourniquet by placing a new tourniquet 1/2 to 1 inch above the old one. He will then remove the old one and the skin is decontaminated using the M291 pads, the M258A1 wipes, or the 0.5 percent chlorine solution.

(b) Usually the aidman will gently cut away bandages. The aidman decontaminates the area around the wound and irrigates the wound with the 0.5 percent chlorine solution. If bleeding begins, the aidman replaces the bandage with a clean one. DO NOT use the M291 pads or wipes from the M258A1 kit on or around the wounds.

(c) DO NOT remove splints. Splints are decontaminated by applying the 0.5 percent chlorine solution to them, to include the padding and cravats. Splints are not removed until the patient has been evacuated to a corps hospital. The patient is checked for completeness of decontamination by use of M8 detection paper or the CAM.

NOTE

Other monitoring devices may be used when available.

(d) Dispose of contaminated bandages and coverings by placing them in a contaminated waste bag. Seal the bag and place it in the contaminated waste dump.

g. Step 7: *Transfer the Patient Across the Shuffle Pit*. The patient's clothing has been cut away and his skin, bandages, and splints have been decontaminated. The litter is transferred to the shuffle pit and placed upon the litter stands. The shuffle pit is sufficiently wide enough to prevent members of the patient decontamination team from straddling it while carrying the litter. A third member of the decontamination team assists with transferring the patient to a clean treatment litter in the shuffle pit.

(1) Decontamination personnel rinse or wipe down their aprons and gloves with the 5 percent chlorine solution.

(2) Three decontamination team members lift the patient off the decontamination litter. One member places his arms under the small of the patient's legs and thigh; the second member places his arms under the small of the patient's back and buttocks; and the third places his arms under the patient's shoulders and supports the head and neck. They carefully lift the patient with their knees, not their back, to minimize back strain.

(3) While the patient is elevated, another decontamination team member removes the litter from the stands and returns it to the decontamination area. A medic from the clean side of the shuffle pit replaces the litter with a clean one. The patient is lowered onto the clean litter. Two medics from the clean side of the shuffle pit move the patient to the clean treatment area. The patient is treated in this area, or awaits processing into the CPS. The litter is wiped down with the 5 percent chlorine solution in preparation for reuse.

NOTE

Before decontaminating another patient, each decontamination team member drinks approximately 1/2 cup of water. The exact amount of water consumed is increased or decreased according to the work level and temperature (see Table K-2).

K-3. Decontaminate an Ambulatory Chemical Agent Patient

All ambulatory patients will not be completely decontaminated at the BAS. Stable patients not requiring treatment at the BAS, such as a patient with a broken arm, but requiring evacuation to the division clearing station or a corps hospital for treatment, may be evacuated in his protective overgarments and mask by any available transportation. However, before evacuation, spot removal of all thickened agents from his protective clothing will be accomplished. For ambulatory patients requiring treatment at the BAS, complete decontamination will be accomplished. A member of the decontamination team or other ambulatory patients will assist in the clothing removal and skin decontamination of these patients, Bandage scissors are used in this procedure; they are returned to the container of 5 percent chlorine solution when not in use.

NOTES

1. Most ambulatory patients will be treated in the contaminated treatment area and RTD.

2. Upon removal of an ambulatory patient's clothing, he becomes a litter patient. The BAS and division clearing station do not have clothing to replace those cut off during the decontamination process. The patient must be placed in a PPW for protection during evacuation.

a. Step 1: Remove Load Bearing Equipment. Remove the load bearing equipment (LBE) by unfastening/unbuttoning all connectors or tie straps; then place the LBE into a plastic bag. Place the plastic bag in the designated storage area.

b. Step 2: Decontaminate the Patient's Mask and Hood.

(1) Send patient to clothing removal station. After the patient has been triaged and treated (if necessary) by the senior medic in the patient decontamination station, he walks to the clothing removal station.

Table K-2. Heat Injury Prevention and Water Consumption

*CRITERIA		CONTROLS		
HEAT CONDITION/ CATEGORY	WBGT INDEX °F	WATER INTAKE QUART/HOUR	PHYSICAL ACTIVITY FOR SOLDIERS **ACCLIMATIZED WORK/REST	UNACCLIMATIZED SOLDIERS AND TRAINEES
White/1	78-81.9	At least 1/2	Continuous	
Green/2	82-84.9	At least 1/2	50/10 minutes	Use discretion in planning heavy exercises.
Yellow/3	85-87.9	At least 1	45/15 minutes	Suspend strenuous exercise during first three weeks of training. Training activities may be continued on a reduced scale after the second week of training. Avoid activity in direct sun.
Red/4	88-89.9	At least 1 1/2	30/30 minutes	Curtail strenuous exercise for all personnel with less than 12 weeks of hot weather training.
Black/5	90 and up	More than 2	20/40 minutes	Physical training and strenuous exercise is suspended. Essential operational commitments not for training, where risk of heat casualties may be warranted, is excluded from suspension. Enforce water intake to minimize expected heat injuries.

* MOPP gear or body armor adds 10°F to the WBGT index.

** An acclimatized soldier is one who has worked in the given heat condition for 10 to 14 days.

NOTE: "Rest" means minimal physical activity. Rest should be accomplished in the shade if possible. Any activity requiring only minimal physical activity can be performed during "rest" periods. EXAMPLES: Training by lecture or demonstration, minor maintenance procedures on vehicles or weapons, personal hygiene activities such as skin and foot care.

(2) Decontaminate and remove mask hood.

(a) Sponge down the front, sides, and top of the hood with a 5 percent chlorine solution. Keep this solution off the patient's skin. Remove the hood by cutting the M6A2 hood (Figure K-2), or by loosening the hood from the mask attachment points for the Quick Doff Hood or other similar hoods. Before cutting the hood, dip the scissors in the 5 percent chlorine solution. Begin by cutting the neck cord, and the small string under the voicemitter. Next, release or cut the hood shoulder straps and unzip the hood zipper. Proceed by cutting the hood upward, close to the filter inlet cover and eye outserts, to the top of the eye outsert, across the forehead to the outer edge of the next eye outsert. Proceed downward toward the patient's shoulder, staying close to the eye lens and filter inlet, and then across the lower part of the voicemitter to the zipper. After dipping the scissors in the 5 percent chlorine solution again, cut the hood from the center of the forehead over the top of the head and fold the right and left sides of the hood away from the patient's head, removing the hood.

(b) Decontaminate the protective mask and the patient's face by using the pads from the M291 kit, the wipes from the M258A1 kit, or the 0.5 percent chlorine solution. Wipe the external parts of the mask, cover both mask air inlets with gauze or your hands to keep the mask filters dry. Continue by wiping the exposed areas of the patient's face, to include the neck and behind the ears.

c. Step 3: Remove the Field Medical Card. Cut the FMC's tie wire, allowing the FMC to fall into a plastic bag. Seal the plastic bag and rinse it with the 0.5 percent chlorine solution. Place the plastic bag under the back of the protective mask head straps.

d. Step 4: Remove all Gross Contamination from the Patient's Overgarment. Remove all visible contamination spots by using the pads from the M291 kit, the wipes from the M258A1 kit, or a sponge with the 0.5 percent chlorine solution.

e. Step 5: Remove Overgarment.

(1) Remove overgarment jacket.

(a) Have the patient stand with his feet spread apart at shoulder width. Unsnap the jacket front flap and unzip the jacket. If the patient can extend his arms, have him clinch his fist and extend his arms backward at about a 30 degree angle. Move behind the patient, grasp his jacket collar at the sides of the neck, and peel the jacket off the shoulders at a 30 degree angle down and away from the patient. Avoid any rapid or sharp jerks which spread contamination; gently pull the inside sleeves over the patient's wrists and hands.

(b) If the patient cannot extend his arms, you must cut the jacket to aid in its removal. Dip the scissors in the 5 percent chlorine solution between each cut. As with the litter patient, cut both sleeves from the inside starting at the wrist up to the armpit. Continue cutting across the shoulder to the collar. Cut around bandages or splints, leaving them in place. Next, peel the jacket back and downward to avoid spreading contamination. Ensure that the outside of the jacket does not touch the patient or his inner clothing.

(c) Remove the patient's butyl rubber gloves by grasping the heel of the glove and peeling the glove off with a smooth downward motion. Place the contaminated gloves in a plastic bag with the overgarment jacket. Do not allow the patient to touch his trousers or other contaminated objects with his exposed hands.

(2) Remove the patient's overboots. Remove the patient's overboots by cutting the laces with scissors dipped in the 5 percent chlorine solution; fold the lacing eyelets flat on the ground. Step on the toe and heel eyelets to hold the overboot on the ground and have the patient step out of it. Repeat this procedure for the other overboot. If the overboots are in good condition, they can be decontaminated and reissued.

(3) Remove overgarment trousers.

(a) Unfasten or cut all ties, buttons, or zippers before grasping the trousers at the waist and peeling them down over the patient's combat boots. Again, the trousers are cut to aid in removal. If necessary, cut both trouser legs starting at the ankle; keep the cuts near the inside of the legs along the inseam to the crotch. Cut around all bandages, tourniquets, or splints. Continue to cut up both sides of the zipper to the waist and allow the narrow strip with the zipper to drop between the legs. Place the scissors in the decontamination solution. Peel or allow the trouser halves to drop to the ground. Have the patient step out of the trouser legs one at a time. Place the trousers in the contaminated disposal bag.

(b) Have the patient remove his cotton glove liners to reduce the possibility of spreading contamination. Have the patient grasp the heel of one glove liner with the other gloved hand and peel the glove off his hand. Hold the removed glove by the inside; grasp the heel of the other glove and peel it off his hand. Place both gloves in the contaminated waste bag.

(c) Place the patient's personal effects in a clean bag and label with the patient's identification. If they are not contaminated, give them to him. If his personal effects are contaminated, place the bagged items in the contaminated storage area until they can be decontaminated, then return them to the patient.

f. Step 6: Check Patient for Contamination. After the patient's overgarments have been removed, check his battle-dress uniform by using M8 detection paper or the CAM. Carefully survey all areas of the patient's clothing, paying particular attention to discolored areas on the uniform, damp spots, tears, and areas around the neck, wrist, ears, and dressings, splints, or tourniquets. Remove spots by using the 0.5 percent chlorine solution, the pads from the M291 kit, or the wipes from the M258A1 kit, or by cutting away the contaminated area. Always dip the scissors in the 5 percent chlorine solution after each cut. Recheck the area with the detection material.

g. Step 7: *Decontaminate the Patient's Skin.*

(1) If contamination is found on the patient's skin, use the M291 kit, the wipes from the M258A1 kit, or the 0.5 percent chlorine solution to spot decontaminate exposed neck and wrist areas, other areas where the protective overgarment was damaged, and dressings, bandages, or splints.

(2) Have the patient hold his breath and close his eyes. Have him or assist him in lifting his mask at the chin. Wipe his face quickly from below the top of one ear, being careful to wipe all folds of the skin, to the top of the upper lip, chin, dimples, ear lobes, arid nose, and up the other side of the face to the top of the other ear. Wipe the inside of the mask where it touches the face. Have the patient reseal and check his mask.

CAUTION

Keep the decontamination solution out the patient's eyes and mouth.

h. Step 8: Remove Bandages and Tourniquets. During the clothing removal, the clothing around bandages, tourniquets, and splints was cut and left in place.

(1) The aidman will replace the old tourniquet by placing a new one 1/2 to 1 inch above the old tourniquet. When the old tourniquet is removed, the skin is decontaminated with the M291 pads, the M258A1 wipes, or the 0.5 percent chlorine solution.

(2) Do not remove splints. Decontaminate them by thoroughly rinsing the splint, padding, and cravats with the 0.5 percent chlorine solution.

(3) The aidman gently cuts away bandages. The area around the wound is rinsed with the 0.5 percent chlorine solution, and the aidman irrigates the wound with the 0.5 percent chlorine solution. The aidman covers massive wounds with plastic secured with tape. Mark the wound as contaminated. The aidman also replaces bandages that are needed to control massive bleeding.

(4) Dispose of contaminated bandages and coverings by placing them in a plastic bag and sealing the bag with tape. Place the plastic bag in the contaminated waste dump.

i. Step 9: Proceed Through the Shuffle Pit to the Clean Treatment Area. Have the decontaminated patient proceed through the shuffle pit to the clean treatment area. Make sure that the patient's boots are thoroughly decontaminated by stirring the contents of the shuffle pit as he crosses it.

K-4. Decontaminate Biological Agent-Contaminated Patients

The decontamination station as established for chemical agent patients can also be used for biologically contaminated patients. The 8-man patient decontamination team is required for biologically contaminated patient decontamination procedures.

K-5. Decontaminate Biological Agent-Contaminated Litter Patients

a. Remove the FMC by cutting the tie wire and allowing the FMC to drop into a plastic bag. Keep the FMC with the patient.

b. Patient decontamination team members first apply a liquid disinfectant, such as chlorine dioxide, to the patient's clothing and the litter.

NOTE

Disinfectant solution for use in patient decontamination procedures must be prepared in accordance with the label instructions on the container. The same strength of the solution used on the skin can also be used to irrigate the wound.

c. Patient decontamination team members remove the patient's clothing as in decontamination of chemical agent patients. Bandages, tourniquets, and splints are not removed. Move patient to a clean litter as described for a chemical agent patient. Place the patient's personal effects in a clean plastic bag; label the bag. If not contaminated, give to patient. If contaminated, place in contaminated storage, decontaminate when possible, then return to patient. Place patient's clothing in a plastic bag and dispose of it in a contaminated waste dump.

d. Bathe patient with soap and water, followed by reapplication of a liquid disinfectant. The medic places a new tourniquet 1/2 to 1 inch above the old tourniquet, then he removes the old one. The medic removes bandages and decontaminates the skin and wound with the disinfectant solution or the 0.5 percent chlorine solution; he replaces the bandage if needed to control bleeding. Splints are disinfected by soaking the splint, cravats, and straps with the disinfectant solution.

NOTES

1. Use a 0.5 percent chlorine solution to decontaminate patients suspected of being contaminated with mycotoxins.

2. Warm water may be used for patient comfort, if available.

e. Two decontamination team members move the patient to the hotline and transfer him to a clean litter as described for chemical agent patients. Place the patient's FMC in the plastic bag on the clean litter with him. Two medics from the clean side of the hotline move the patient from the hotline to the clean treatment/holding area.

K-6. Decontaminate Biological Agent-Contaminated Ambulatory Patients

a. Remove the patient's FMC by cutting the tie wire and allowing it to drop into a plastic bag. Keep the bagged FMC with the patient.

b. Apply a liquid disinfectant solution, such as chlorine dioxide, over the patient's clothing.

c. Remove the patient's clothing as described for a chemical agent patient. Do not remove bandages, tourniquets, or splints. Place patient's clothing in a plastic bag and move the plastic bag to the contaminated waste dump.

d. Have the patient bathe with soap and water. If the patient is unable to bathe himself, a member of the decontamination team must bathe him. Reapply the disinfectant solution. A medic places a new tourniquet 1/2 to 1 inch above the old one and removes the old one. A medic removes bandages and decontaminates the wound and surrounding skin area with the disinfectant solution or the 0.5 percent chlorine solution. The medic replaces the bandage if required to control bleeding. Splints are decontaminated in place by applying the disinfectant solution or the 0.5 percent chlorine solution to the splint, cravats, and straps.

e. Direct the patient to cross the hotline to the clean treatment area. His boots must be decontaminated at the hotline before he enters the clean treatment area.

NOTE

This patient becomes a litter patient. He must be placed in a PPW before evacuation.

K-7. Decontaminate Nuclear-Contaminated Patients

The practical decontamination of nuclear-contaminated patients is easily accomplished without interfering with the required medical care.

NOTE

Patients must be monitored by using a radiac meter before, during, and after each step of the decontamination procedure.

K-8. Decontaminate a Nuclear-Contaminated Litter Patient

a. Patient decontamination team members remove the patient's outer clothing as described for chemical agent patients. Do not remove bandages, tourniquets, or splints. Move the

patient to a clean litter. Place the patient's contaminated clothing in a plastic bag and move the bagged clothing to the contaminated waste dump.

b. Wash exposed skin surfaces with soap and water. Wash the hair with soap and water, or clip the hair and wash the scalp with soap and water.

c. Move the patient to the hotline. Two medics from the clean side of the hotline move the patient into the clean treatment area.

K-9. Decontaminate a Nuclear-Contaminated Ambulatory Patient

a. Have the patient remove his outer clothing or have a decontamination team member assist the patient in removing his outer clothing. Place his contaminated clothing in a plastic bag and move the bagged clothing to the contaminated waste dump.

b. Wash exposed skin surfaces with soap and water. Wash his hair with soap and water, or clip the hair and wash the scalp with soap and water.

c. Direct the patient to move to the hotline. Decontaminate his boots before he crosses into the clean treatment area.

NOTE

This patient becomes a litter patient. He must be protected by using a blanket or other protective material during evacuation.

APPENDIX L

COMMUNICATIONS, AUTOMATION, AND POSITION NAVIGATION SYSTEMS

Section I. OPERATIONAL FACILITY RULES AND EQUIPMENT

L-1. General

a. The ability to communicate is essential to C^2 and the accomplishment of the assigned mission. in order to ensure effective communications, a system has evolved which authorizes the specific types and numbers of communications equipment required for a unit or element.

b. The OPFAC rule is the tool used to determine—

- At what level/position the communications capability is required.
- The specific type and numbers of communications equipment needed.

c. The OPFAC rule is the smallest element of a TOE to which a piece of communications equipment is assigned, such as the company commander, wrecker operator, PA, or ambulance.

L-2. Requirements

The OPFAC rules are the basis for documenting command, control, communications, and computer equipment in the basis-of-issue plans (BOIPs) and TOEs. The OPFAC rule system is an ongoing validation. These rules are subject to change. Tables L-1 through L-13 depicts the OPFAC distribution of equipment for divisional and nondivisional medical companies.

Table L-1. Medical Company, Forward Support Battalion (Supporting 2–3 Infantry Battalions) (TOE 08027L2)

PARA	User/ Position	OPFAC Rule#	FM Radio	AM Radio	MSE	FAX	POS/NAV Equipment	ADP Equipment	ADP Systems Requirements
01/00	Company HQ	DB285	89	213	TA-1035				
01/01	Company Cdr	DB202	89		TA-1035		PLGR		
01/21	PLL Clerk	DHA51			TA-1035				
02/00	Trmt Plt HQ	DF281			TA-1035				
03/01	Fld Surgeon(2)	DG204	89(2)				PLGR(2)		
03/02	PA	DG205	88(2)				PLGR(2)		
05/01	Fld Surgeon	DG204	89				PLGR		
05/02	PA	DG205	88				PLGR		
07/01	Amb Plt Leader	DF203	89		TA-1035		PLGR		
07/0A	Amb Wheel(6)	DI201	90(6)				PLGR(6)		

Table L-2. Medical Company, Forward Support Battalion (Supporting 4 Infantry Battalions) (TOE 08027L3)

PARA	User/ Position	OPFAC Rule#	FM Radio	AM Radio	MSE	FAX	POS/NAV Equipment	ADP Equipment	ADP Systems Requirements
01/00	Company HQ	DB285	89	213	TA-1035				
01/01	Company Cdr	DB202	89		TA-1035		PLGR		
01/20	PLL Clerk	DHA51			TA-1035				
02/00	Trmt Plt HQ	DF281			TA-1035				
03/01	Fld Surgeon(3)	DG204	89(3)				PLGR(3)		
03/02	PA(3)	DG205	88(3)				PLGR(3)		
05/01	Fld Surgeon	DG204	89				PLGR		
05/02	PA	DG205	88				PLGR		
07/01	Amb Plt Leader	DF203	89		TA-1035		PLGR		
07/0A	Amb, Wheel(8)	DI201	90(8)				PLGR(8)		

Table L-3. Medical Company, Main Support Battalion, Heavy/Light Division (TOE 08057L0)

PARA	User/ Position	OPFAC Rule#	FM Radio	AM Radio	MSE	FAX	POS/NAV Equipment	ADP Equipment	ADP Systems Requirements
01/00	Company HQ	DB285	89	213	TA-1035		PLGR		
01/01	Company Cdr	DB202	89		TA-1035		PLGR		
01/05	Wrecker Operator	DI203	90				PLGR		
01/18	PLL Clerk	DHA51			TA-1035				
02/00	DMSO	DH201			TA-1035 (2)		PLGR	MEDTCU MEDTCU	MEDSUP MEDMNT MEDASM
03/00	PVNTMED Section	DE204			TA-1035	FAX	PLGR(3)		
06/00	Trmt Plt HQ	DF281			TA-1035				
07/01	Fld Surgeon(4)	DG204	89(4)				PLGR(4)		
07/02	PA(4)	DG205	88(4)				PLGR(4)		
09/01	Fld Surgeon	DG204	89				PLGR		
09/02	PA	DG205	88				PLGR		
11/01	Amb Plt Leader	DF203	89		TA-1035		PLGR		
11/0A	Amb, Wheel(10)	DI201	90(10)				PLGR(10)		

Table L-4. Medical Company, Forward Support Battalion, Heavy/Light Division (TOE 08058L2)

PARA	User/ Position	OPFAC Rule#	FM Radio	AM Radio	MSE	FAX	POS/NAV Equipment	ADP Equipment	ADP Systems Requirements
01/00	Company HQ	DB285	89	213	TA-1035		PLGR		
01/01	Company Cdr	DB202	89		TA-1035		PLGR		
01/20	PLL Clerk	DHA51			TA-1035				
01/18	Wrecker Operator	DI203	90				PLGR		
02/00	Trmt Plt HQ	DF281			TA-1035				
02/01	Fld Surgeon(2)	DG204	89(2)				PLGR(2)		
02/02	PA(2)	DG205	88(2)				PLGR(2)		
05/01	Fld Surgeon	DG204	89				PLGR		
05/02	PA	DG205	88				PLGR		
07/01	Amb Plt Leader	DF203	89		TA-1035		PLGR		
08/0A	Amb, Wheel(4)	DI201	90(4)				PLGR(4)		
09/0A	Amb, Track(4)	DI201	90(4)				PLGR(4)		

Table L-5. Medical Company, Main Support Battalion, Airborne Division (TOE 08267L0)

PARA	User/ Position	OPFAC Rule#	FM Radio	AM Radio	MSE	FAX	POS/NAV Equipment	ADP Equipment	ADP Systems Requirements
01/00	Company HQ	DB285	89	213	TA-1035		PLGR		
01/01	Company Cdr	DB202	89		TA-1035		PLGR		
08/18	PLL Clerk	DHA51							
02/00	DMSO	DH201			TA-1035 (2)		PLGR	MEDTCU	MEDSUP
03/00	PVNTMED Section	DE204			TA-1035	FAX	PLGR(3)		
06/00	Trmt Plt HQ	DF281			TA-1035				
08/01	Flt Surgeon(2)	DG204	89(2)				PLGR(2)		
08/02	PA(2)	DG205	88(2)				PLGR(2)		
10/01	Flt Surgeon	DI204	89				PLGR		
10/02	PA	DG205	88				PLGR		
12/01	Amb Plt Leader	DF203	89		TA-1035		PLGR		
13/0A	Amb, Wheel(8)	DI201	90(8)				PLGR(8)		

Table L-6. Medical Company, Forward Support Battalion, Airborne Division (TOE 08277L0)

PARA	User/ Position	OPFAC Rule#	FM Radio	AM Radio	MSE	FAX	POS/NAV Equipment	ADP Equipment	ADP Systems Requirements
01/00	Company HQ	DB285	89	213	TA-1035				
01/01	Company Cdr	DB202	89		TA-1035		PLGR		
02/00	Trmt Plt HQ	DF281			TA-1035				
03/01	Flt Surgeon(2)	DG204	89(2)				PLGR(2)		
03/02	PA(2)	DG205	88(2)				PLGR(2)		
05/01	Flt Surgeon	DG204	89						
05/02	PA	DG205	88				PLGR		
07/01	Amb Plt Leader	DF203	89		TA-1035		PLGR		
08/0A	Amb, Wheel(8)	DI201	90(8)				PLGR(8)		

Table L-7. Medical Company, Main Support Battalion, Air Assualt Division (TOE 08277L0)

PARA	User/ Position	OPFAC Rule#	FM Radio	AM Radio	MSE	FAX	POS/NAV Equipment	ADP Equipment	ADPSystems Requirements
01/00	Company HQ	DB285	89	213	TA-1035		PLGR		
01/01	Company Cdr	DB202	89		TA-1035		PLGR		
01/14	PLL Clerk	DHA51			TA-1035				
02/00	DMSO	DH201			TA-1035 (2)		PLGR	MEDTCU	MEDSUP
03/00	PVNTMED Section	DE204			TA-1035	FAX	PLGR		
06/00	Trmt Plt HQ	DF281			TA-1035				
08/01	Flt Surgeon	DG204	89				PLGR		
08/02	PA	DG205	88				PLGR		
10/01	PA	DG205	88				PLGR		
10/02	Flt Surgeon	DG204	89				PLGR		
12/01	Amb Plt Leader	DF203	89		TA-1035		PLGR		
13/0A	Amb, Wheel(10)	DI201	90(8)				PLGR(8)		

Table L-8. Medical Company, Forward Support Battalion, Air Assault Division (TOE 08278L0)

PARA	User/ Position	OPFAC Rule#	FM Radio	AM Radio	MSE	FAX	POS/NAV Equipment	ADP Equipment	ADP Systems Requirements
01/00	Company HQ	DB285	89	213	TA-1035		PLGR		
01/01	Company Cdr	DB202	89		TA-1035		PLGR		
02/00	Trmt Plt HQ	DF281			TA-1035				
03/01	Flt Surgeon(2)	DG204	89(2)				PLGR(2)		
03/02	PA	DG205	88				PLGR		
03/03	PA	DG205	88				PLGR		
05/01	Flt Surgeon	DG204	89				PLGR		
05/02	PA	DG205	88				PLGR		
07/01	Amb Plt Leader	DF203	89		TA-1035		PLGR		
08/0A	Amb, Wheel(6)	DI201	90(6)				PLGR(6)		

Table L-9. Medical Company, Support Battalion, Heavy Separate Brigade (TOE 08437L0)

PARA	User/ Position	OPFAC Rule#	FM Radio	AM Radio	MSE	FAX	POS/NAV Equipment	ADP Equipment	ADP Systems Requirements
01/00	Company HQ	DB285	89	213	TA-1035				
01/01	Company Cdr	DB202	89		TA-1035		PLGR		
01/15	Wrecker Operator	DI203	90				PLGR		
01/20	PLL Clerk	DHA51			TA-1035				
02/00	BMSO	DH201			TA-1035 (2)		PLGR	MEDTCU	MEDSUP
03/00	PVNTMED Section	DE204			TA-1035	FAX	PLGR		
06/00	Trmt Plt HQ	DF281			TA-1035				
07/01	Fld Surgeon(3)	DG204	89(3)				PLGR(3)		
07/02	PA(3)	DG205	88(3)				PLGR(4)		
08/00	Surgical Sqd	DED00			TA-1035	FAX	PLGR		
10/01	Fld Surgeon	DG204	89				PLGR		
10/02	PA	DG205	88				PLGR		
12/01	Amb Plt Leader	DF203	89		TA-1035		PLGR		
13/0A	Amb, Wheel (6)	DI201	90(6)				PLGR(6)		
14/0A	Amb, Track(6)	DI201	90(6)				PLGR(6)		

Table L-10. Medical Company, Support Battalion, Infantry Brigade (TOE 08438L1)

PARA	User/ Position	OPFAC Rule#	FM Radio	AM Radio	MSE	FAX	POS/NAV Equipment	ADP Equipment	ADP Systems Requirements
01/00	Company HQ	DB285	89	213	TA-1035				
01/01	Company Cdr	DB202	89		TA-1035		PLGR		
01/15	Wrecker Operator	DI203	90				PLGR		
01/20	PLL Clerk	DHA51			TA-1035				
02/00	BMSO	DH201			TA-1035 (2)		PLGR	MEDTCU	MEDSUP
03/00	PVNTMED Section	DE204			TA-1035	FAX	PLGR		
06/00	Trmt Plt HQ	DF281			TA-1035				
07/01	Fld Surgeon(3)	DG204	89(3)				PLGR(3)		
07/02	PA(3)	DG205	88(3)				PLGR(3)		
08/00	Surgical Sqd	DED00			TA-1035	FAX	PLGR		
10/01	Fld Surgeon	DG204	89				PLGR		
10/02	PA		DG205	88			PLGR		
12/01	Amb Plt Leader	DF203	89		TA-1035		PLGR		
13/0A	Amb, Wheel(10)	DI201	90(10)				PLGR(10)		

Table L-11. Headquarters and Support Medical Company, Area Support Medical Battalion (TOE 08456L0)

PARA	User/ Position	OPFAC Rule#	FM Radio	AM Radio	MSE	FAX	POS/NAV Equipment	ADP Equipment	ADP Systems Requirements
09/00	Company HQ	DB285	89	213	TA-1035		PLGR		
09/01	Company Cdr	DB202	89		TA-1035		PLGR		
10/00	Trmt Plt HQ	DF281			TA-1035				
11/01	Fld Surgeon(2)	DG204	89(2)				PLGR(2)		
11/02	PA(2)	DG205	88(2)				PLGR(2)		
14/01	Fld Surgeon	DG204	89				PLGR		
14/02	PA	DG205	88				PLGR		
15/01	Amb Plt Leader	DF203	89		TA-1035		PLGR		
16/0A	M1010 Amb(8)	DI201	90(8)				PLGR(8)		

Table L-12. Area Support Medical Company, Area Support Medical Battalion (TOE 084572)

PARA	User/ Position	OPFAC Rule#	FM Radio	AM Radio	MSE	FAX	POS/NAV Equipment	ADP Equipment	ADP Systems Requirements
01/00	Company HQ	DB285	89	213	TA-1035				
01/01	Company Cdr	DB202	89		TA-1035		PLGR		
01/21	PLL Clerk	DHA51			TA-1035				
02/00	Trmt Plt HQ	DF281			TA-1035				
03/01	Fld Surgeon(2)	DG204	89(2)				PLGR(2)		
03/02	PA	DG205	88(2)				PLGR(2)		
05/01	Fld Surgeon	DG204	89				PLGR		
05/02	PA	DG205	88				PLGR		
07/01	Amb Plt Leader	DF203	89		TA-1035		PLGR		
08/0A	Ground Amb(6)	DI201	90(6)				PLGR(6)		

Table L-13. Medical Troop, Support Squadron, Armored Calvary Regiment (TOE 08477L0)

PARA	User/ Position	OPFAC Rule#	FM Radio	AM Radio	MSE	FAX	POS/NAV Equipment	ADP Equipment	ADP Systems Requirements
01/00	Troop HQ	DB285	89	213	TA-1035				
01/01	Troop Cdr	DB202	89		TA-1035		PLGR		
01/0A	Wrecker Operator	DI203	90		TA-1035				
02/00	RMSO	DH921			TA-1035			MEDTCU	MEDSUP
03/00	Trmt Plt HQ	DF281			TA-1035				
04/01	Fld Surgeon(2)	DG204	89(2)				PLGR(2)		
04/02	PA(2)	DG205	88(2)				PLGR(2)		
06/01	Fld Surgeon(2)	DG204	89(2)				PLGR(2)		
06/02	PA	DG205	88(2)				PLGR(2)		
08/01	Amb Plt Leader	DF203	89		TA-1035		PLGR		
09/0A	Amb, Wheel(6)	DI201	90(6)				PLGR(6)		
10/0A	Amb, Track(6)	DI201	90(6)				PLGR(6)		

L-3. Communications Equipment

The OPFAC rules impact or four types of communications equipment:

a. Radios. Frequency modulation and AM radios comprise the family of radios discussed in this appendix as CNRs. When discussing the OPFAC rules for the medical company, the SINCGARS radios constitute the FM slice and the IHFR radio constitutes the AM component.

(1) *Single Channel Airborne Radio System.* The SINCGARS radios, AN/VRC-88, AN/VRC-89, and AN/VRC-90, operate in the 30-to 88-megahertz (mHz) frequency range in 25-kilohertz (kHz) steps for a total of 2,320 channels. They can operate in either a single-channel or frequency-hopping mode. For COMSEC, the medical company uses the KY-57 speech security device with its assigned SINCGARS equipment.

(a) AN/VRC-88. The AN/VRC-88 is a short-range, vehicular-mounted radio which has a manpack, an antenna, and a battery case as additional components. The radio can be removed from the vehicle and can be reconfigured as the PRC-119 manpack radio by installing the antenna and the battery case. It consists of one receiver/transmitter (RT), a radio mount, a mounting adapter, a vehicular antenna, and associated handset and cabling. The dismountable (PRC-119) short-range AN/VRC-88 adds the components needed to operate as a manpack radio. The radio has a 4-kilometer (km) range and maybe operated from a vehicle or in a dismounted configuration. This radio is normally used by treatment team B.

(b) AN/VRC-89. The AN/VRC-89 radio is a vehicular-mounted, dual configuration radio consisting of one short-range and one long-range, solid state, securable transceiver mounted in a single vehicular mount. It is basically two vehicular-mounted, short-range radio sets with an added power amplifier that provides one of the radio sets with a long-range communications capability up to 35 km. This radio is normally used by the medical company's/troop's CP, platoons, and treatment squads.

(c) AN/VRC-90. The AN/VRC-90 radio is used when the communications equipment normally operate over long distances (up to 35 km). This radio is especially suitable for ambulance teams who require unimpeded, long-range communications.

(2) *Improved-high frequency radio.* The AN/GRC-213 is a low-power manpack or vehicular-mounted configuration of the IHFR system. It provides a reliable high frequency coverage capability of 2 to 30 mHz for medical troops/companies. It has the capability to pass secure medical C^2 and CHS information over medium- to long-range distances. It also can be used over varying terrain features which would normally preclude the use of very high frequency (VHF)/FM CNRs.

(3) *Ancillary radio equipment.* The medical company/troop requires two main categories of ancillary equipment associated with its SINCGARS equipment. These are remote control devices and data fill/variable storage transfer devices.

(a) Control receiver-transmitter (CRT): C11561. The CRT C11561 provides SINCGARS vehicular radios with a remoting capability of up to 4 km. It is able to remotely control all front panel controls on the radio. This CRT C11561 may also be adapted with detachable control panels for electronics counter-countermeasure (ECCM) and COMSEC. The COMSEC and data adapter devices may be attached directly to the CRT for secure communications over the transmission line and optimal interface with digital data terminals. The CRT C11561 is an incremental change package for the medical company/troop. It will replace the AN/GRA-39 discussed below.

(b) Radio set control group: AN/GRA-39. The AN/GRA-39 is used to remote single channel radios. It is compatible with integrated and nonintegrated communications radios. The AN/GRA-39 controls only remote keying of radios from a terminal set; the operator must set the other functions at the location of the radio.

(c) Data fill devices. Data fill devices provide a means to transfer the required variables for the frequency-hopping mode from unit to unit and to enter the variables into the radio. The medical company/troop is authorized the following two devices for this requirement:

(1) *Electronic counter-countermeasure fill device: MX-10579/VRC.* The MX-10579 is used to enter hopset information into SINCGARS radio sets. Hop set information consists of radio frequencies which are automatically changed (hopped) during transmission and permits synchronization of radios in use. The MX-10579 is a hand-held, battery-operated device that is used to program SINCGARS radios with assigned frequencies over which the radios' frequencies hop for ECCM protection. It holds up to 13 hopsets and two transmission security keys (TSKs) variables. It can be filled with one location at a time or bulk loaded with a complete fill. The MX-10579 will be used only until such time the Battlefield Electronics Communications-Electronics System (BECS) becomes available.

(2) *Electronic notebook (EN): AN/CYZ-7A.* The AN/CYZ-7A is a small hand-held data memory device similar to a small calculator. It can be loaded with complete or partial SOI and frequency-hopping variables for SINCGARS. The EN provides the operator with an automated search method to locate call signs and frequencies for use in any number of networks. It replaces the paper SOI for use in the field.

(d) Secure voice and FM communications devices. The following are descriptions and applications of this equipment used by the company in its CNR operations:

(1) *Speech security equipment: KY-57.* The KY-57 is a half-duplex, tactical wideband COMSEC device for VHF and FM radio equipment. This device is used by the operator to transmit and receive in a secure mode.

(2) *Net control device (NCD): KYX-15/TSEC.* The NCD KYX-15 is a battery-operated control device that provides for storage and transfer of 1 to 16 frequencies. When it is connected to COMSEC equipment, the KYX-15 performs the automatic remote keying function and other cryptovariable operations. The NCD KYX-15 is required by the NCSs operated by the medical company's CP, treatment platoon, and ambulance platoon for secure CNR operation.

b. Mobile Subscriber Equipment. All medical companies are allocated one major piece of MSE: the digital nonsecure voice telephone (DVNT) TA-1035/U. Some medical companies are allocated a FAX machine (tactical lightweight digital facsimile [LDF} AN/UXC-7).

(1) *Digital nonsecure voice telephone: TA-1035/U:* The DNVT TA-1035/U is a prime subscriber terminal that provides full-duplex digital voice communications and voltage reference signal for data subscribers in the MSE system. It is also equipped with a data port that allows users of the LDF AN/UXC-7 to access the MSE network.

(2) *Tactical lightweight digital facsimile: AN/UXC-7:* The tactical LDF AN/UXC-7 is a prime subscriber terminal that provides full-duplex digital voice communications and voltage reference signal for data subscribers in the MSE system. It is also equipped with a data port that allows its users to access the MSE network. The AN/UXC-7 enables subminute transmission/reception of typed or handwritten copy, sketches, or overlays, up to 8 1/2 by 11 inches in black and white format (two shades of gray). The LDF operates directly into the TA-1035/U data port for MSE network access. It will also operate over radios and wire circuits and has full digital or analog data/voice capability. The AN/UXC-7's brief transmission (burst) reduces the chance of detection by the enemy. The critical advantages are made possible by the LDF set's ability to store data in memory and then send in short, high-speed transmission, requiring 7 to 15 seconds to transmit a full page. The AN/UXC-7 is primarily used by the company's/troop's brigade/regimental medical supply office (BMSO/RMSO) and PVNTMED section which are required to send and receive hard-copy data for supporting CHS at echelons above brigade.

c. Tactical Computer. The medical company/troop is allocated the Medical Transportable Computer Unit (MEDTCU). The MEDTCU is a computer system that runs C^2 software. This Combat Service Support Control System (CSSCS) operates on Army Tactical Command and Control System/Computer Hardware System equipment and is distributed primarily to medical units. Mainly, the MEDTCU is used by medical supply offices to run the Theater Army Medical Management Information System's (TAMMIS) medical supply (MEDSUP) and medical assemblages (MEDASM) subsystems. However, if the commander so chooses, it may be used to run other TAMMIS programs, such as the medical patient accounting and reporting (MEDPAR) system. For data transfer, the MEDTCU will primarily be supported by the MSE communications system (using the TA-1035) with augmentation or redundant backup by AM radio or satellite linkup. The MEDTCU is comprised of a transportable computer unit (TCU), color monitor device, printer unit (PU), and an archives device (AD).

(1) *Transportable computer unit.* The TCU connects with the AD, the color monitor, and the PU and provides multitasking software resources for computational and graphic capability, word processing, and database management. It operates from standard 115- or 230-volt alternating current. The unit comes with a full-size, hinged/detachable keyboard that can be detached and relocated up to 24 inches from the computer unit.

(2) *Color monitor device.* This monitor device has four to eight color planes and is driven by a video card installed in the host computer.

(3) *Printer.* This unit is a rugged printer designed to satisfy 80-column printer applications in an adverse environment where size, weight, and power consumption are prime considerations. The PU is a portable device. It employs solid state, dot matrix printing technology.

(4) *Archives device.* The AD is a rugged l/4-inch (disk drive) streaming magnetic tape cartridge system intended to provide backup or archiving. Each cartridge can accommodate 67 megabytes of data. The AD tape system is supported on the TCU.

d. Position/Navigation Device. The medical company along with other CS, CSS, and combat units have been allocated sufficient quantities of the PLGR device commensurate with their missions.

(1) The PLGR is a hand-held, battery-powered position and navigation set that receives its signal from GPS satellites, performs calculations, and displays position, velocity, time, and navigational data. The device provides a very accurate position location capability for determining and/or reporting self-location; however, it is not a communications device.

(2) The device will be exclusively employed by the company's ambulance teams, treatment teams, and wrecker operators.

Section II. COMMUNICATIONS

L-4. General

Communications systems are essential for gathering and disseminating data; personnel need them to plan and execute operations. Commanders use them to perform C^2 functions and to supervise performance. Effective management of CHS functions depends on adequate communications to keep abreast of changing situations and requirements. The medical company relies on both its organic communications assets and the support assets of its parent unit and signal elements of the division and/or corps.

L-5. Mobile Subscriber Equipment Area Common User System

Mobile subscriber equipment is the ACUS within the corps and divisions. It is the backbone of the corps communications system and is deployed from the corps rear boundary forward to the maneuver battalion's main CP. It provides a secure mobile, survivable communications system capable of passing voice, data, and FAX throughout the corps. Further, it provides a direct interface with EAC, other services, NATO, CNR, and commercial communications systems. This system is composed of multiple communications nodes with network features which will automatically bypass and reroute

communications around damaged or jammed nodes. This system integrates the functions of transmission, switching, control, and terminal equipment (voice and data) into one system and provides the user with a switched telecommunications system extended by mobile radiotelephones. Nodes are deployed in the AO based on geographical and subscriber density factors. Node centers are the building blocks of the center and extension switches allow wire line terminal subscribers (telephone, FAX, and data) to enter into the ACUS. Radio access units (RAUs) let mobile radiotelephone users communicate with other mobile and wire telephone users throughout the AO. The system control centers provide the processing capability to assist in overall network management. The MSE system lets subscribers communicate with each other using fixed directory numbers regardless of a subscribers battlefield position. (See FM 11-37 for a detailed discussion on MSE for small unit leaders.)

a. Area Coverage. The MSE system provides common user support to a geographic area, as opposed to dedicated support to a specific unit or customer. The hubs of the system are called nodes and are under the control of the corps signal officer.

b. Subscriber Terminal (Fixed). The MSE telephone, mobile radiotelephone, FAXs, and data terminals (as part of the ACUS) are user-owned and operated. The using unit is responsible for running wire to the designated distribution boxes. These boxes tie the medical company MSE telephones into the extension switches which access the system. The subscriber terminals used by the unit are digital, four-wire voice as well as having data ports (DVNT TA-1035) for interfacing the AN/UXC-7 FAX and MEDTCU.

c. Wire Subscriber Access.

(1) Wire subscriber access points provide the entry points (interface) between fixed subscriber terminal equipment and the MSE area system operated by the supporting signal unit. The two types of interface equipment are—

(a) The signal distribution panel J-1077 (each panel provides up to 13 subscriber access points).

(b) Remote multiplexer combiners (RMCs) which provide access for 8 subscriber access points.

(2) The medical company/troop is responsible for installing and operating fixed subscriber terminal instruments (DNVT TA-1035). It must also install and maintain the WF 16 field wire from the instruments to the interface point (J-1077 distribution panel).

L-6. Combat Net Radio System

Combat net radio equipment includes both the IHFR AM system and the SINCGARS FM system. These systems serve as the primary means for voice transmission of C^2 information and as a secondary means for data transmission. Data transmission is required when data transfer

requirements cannot be met by the MSE system. The IHFR series and the AM radios provide mid-to-far range communications capabilities. They interface with other AM high frequency radios which are antijamming, provide secure voice and data capability, and have push-button frequency selection. The SINCGARS series and FM radios use a 16-element keypad for push-button tuning which allows for simple and quick operation. They are capable of short-range operation for voice or digital data communications. They are also capable of single-channel operation for interface with the AN/VRC-12 series or other FM radios. The SINCGARS series of radios can operate in a jam-resistant, frequency-hopping mode which can be changed as needed (refer to procedures outlined in FM 11-32). For information on the SOI, refer to FM 24-35.

L-7. Radio Nets

The medical company/troop establishes radio nets to maintain an information link for C^2 of its elements. It is also essential that this Echelon II unit establish radio communications links with supporting corps medical elements and supported medical platoons to ensure that timely CHS is provided throughout its support area. The medical company/troop, under its parent support battalion/squadron, employs its SINCGARS radios in three separate FM nets: a command net, a treatment platoon medical operations net, and an ambulance platoon medical evacuation net. It also employs an IHFR net.

a. Command FM Net. For C^2, the commander establishes a command net (Figure L-1). The NCS, operated by the unit CP, is normally comprised of the commander's station, treatment platoon leader's station, ambulance platoon leader's station, and a wrecker operator/maintenance station. The commander's station is also deployed in the battalion/squadron command net. The CP NCS maybe employed in the brigade or regimental administrative/logistics net. The CP is authorized the NCD KYX-15/TSEC for its NCS operation. The treatment platoon's NCS may also serve as the alternate NCS for the command net.

b. Improved-High Frequency Radio Net (AM.). If the unit is a divisional medical company, it is required to net with the DMOC medical operations net to ensure the external flow of health service logistics and air/ground evacuation support. If the unit belongs to a nondivisional brigade or regiment, it will have access to the supporting medical group medical operations net. Nondivisiorial medical companies/troops may also access IHFR nets of the MEDLOG and medical evacuation battalions. The signal officer of the parent support battalion/squadron assists the medical company/troop in obtaining adequate SOIs to allow it to access these dedicated medical networks. The unit's IHFR station (Figure L-2) is operated by its CP.

c. Treatment Platoon Medical Operations FM Net. For operational control of its treatment elements, the treatment platoon establishes a medical operations net (Figure L-3). The NCS is operated by the platoon headquarters. The platoon headquarters may also serve as an alternate NCS for the command net, and the clearing station may serve as the alternate NCS for the treatment platoon. This net is also used by approaching air ambulances for patient pickup. When treatment squads/teams of the medical company/troop are deployed in DS, or are attached to supported maneuver battalions/squadrons, they will normally operate in the medical operations net of the

supported battalion/squadron aid station. They must be provided appropriate SOIs for support operations.

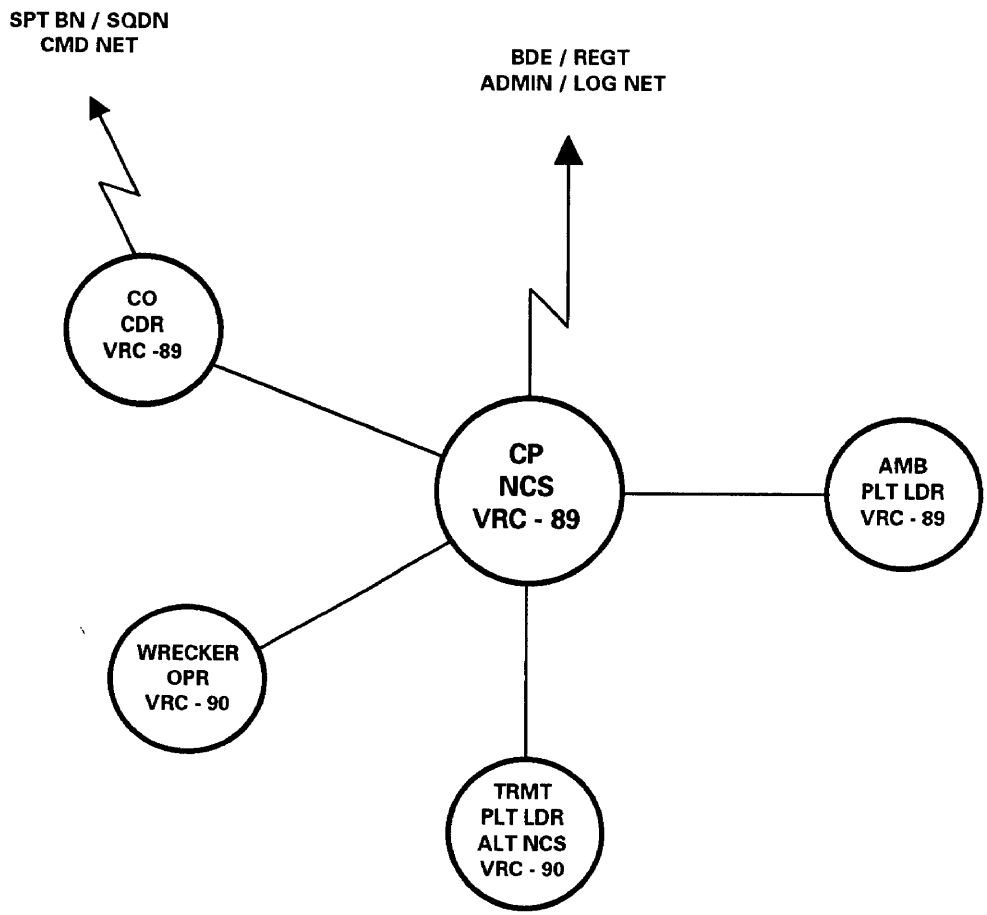


Figure L-1. Medical company/troop command FM net.

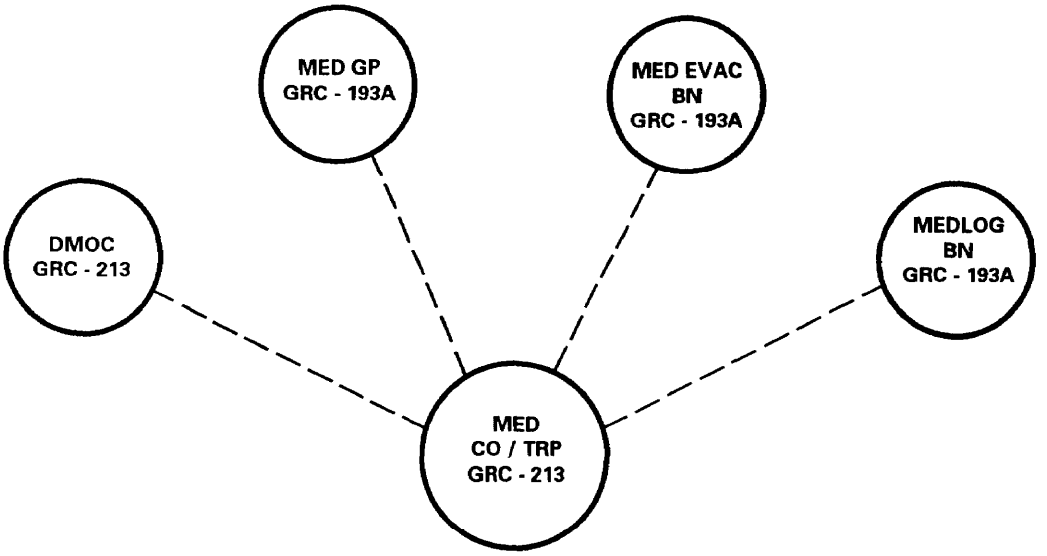


Figure L-2. Medical company/troop medical operations IHFR net access.

d. Ambulance Platoon (Dedicated) Medical Evacuation FM Net. The ambulance platoon, under the control of its parent unit, establishes an FM net (Figure L-4) primarily dedicated to air and ground medical evacuation radio traffic for the supported area. This net, operated by the platoon headquarters, provides for the control of organic ambulances and for coordination of air and ground patient evacuation in the supported area. The supported battalion/squadron aid stations and supporting corps air and ground ambulances all operate on this net for the evacuation of patients out of the supported area. Supported aid stations also use this net for the coordination of health service logistics support.

e. Supported Medical Platoon. This supported Echelon I element employs a medical operations net (Figure L-5) under the headquarters and headquarters company/troop of the parent maneuver battalion/squadron. The platoon headquarters serves as the NCS. Its station is also deployed in the administrative/logistics net. Other stations of this medical operations net include treatment team A (battalion/squadron surgeon's station), treatment team B (PA station), ambulance team stations, and the attached treatment squad/team from the supporting medical company/troop. The medical platoon is provided appropriate SOIs sufficient to communicate with both supported and supporting units.

NOTE

Each ambulance team is a separate station and will require separate call signs.

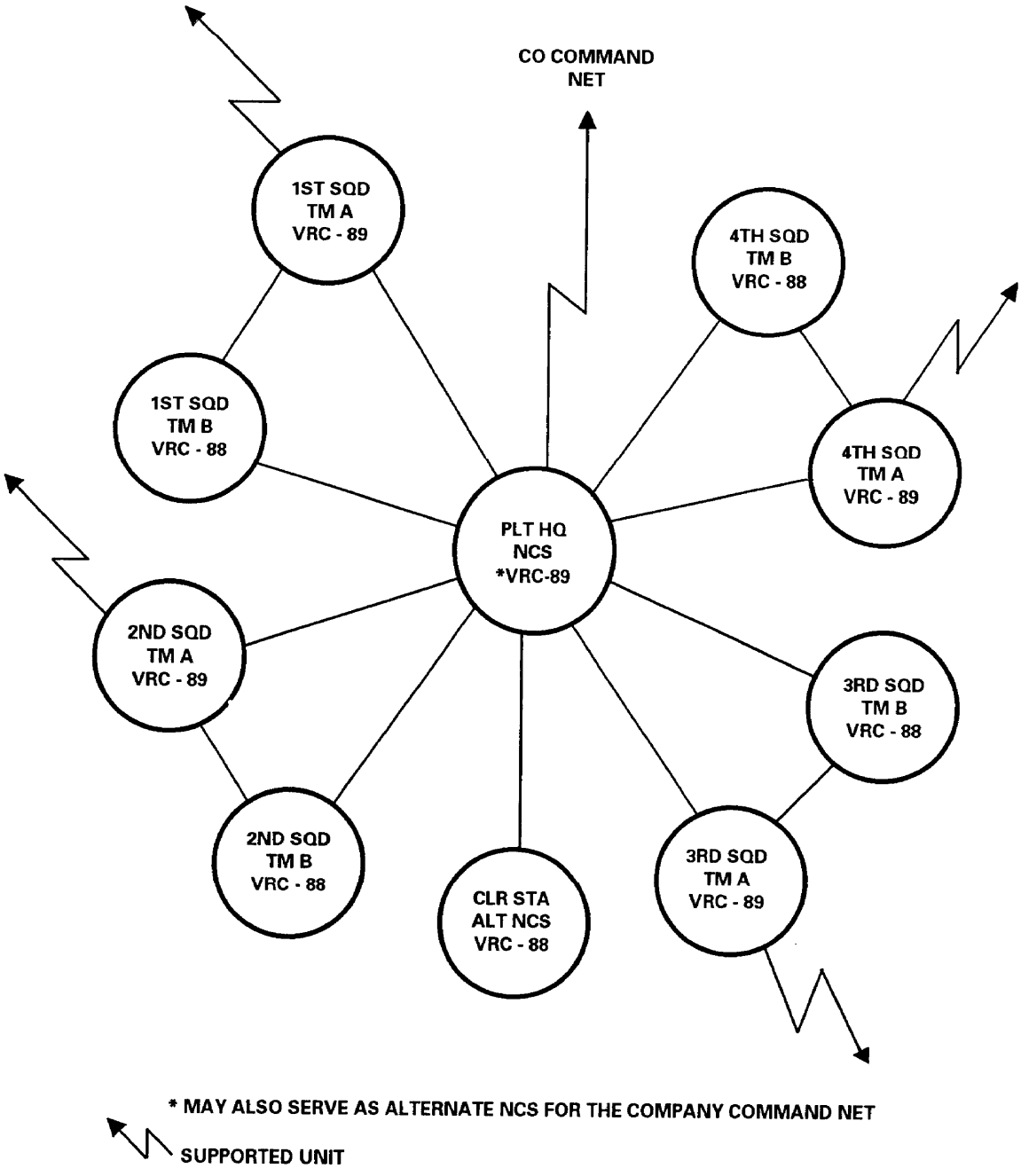


Figure L-3. Treatment platoon medical operations FM net.

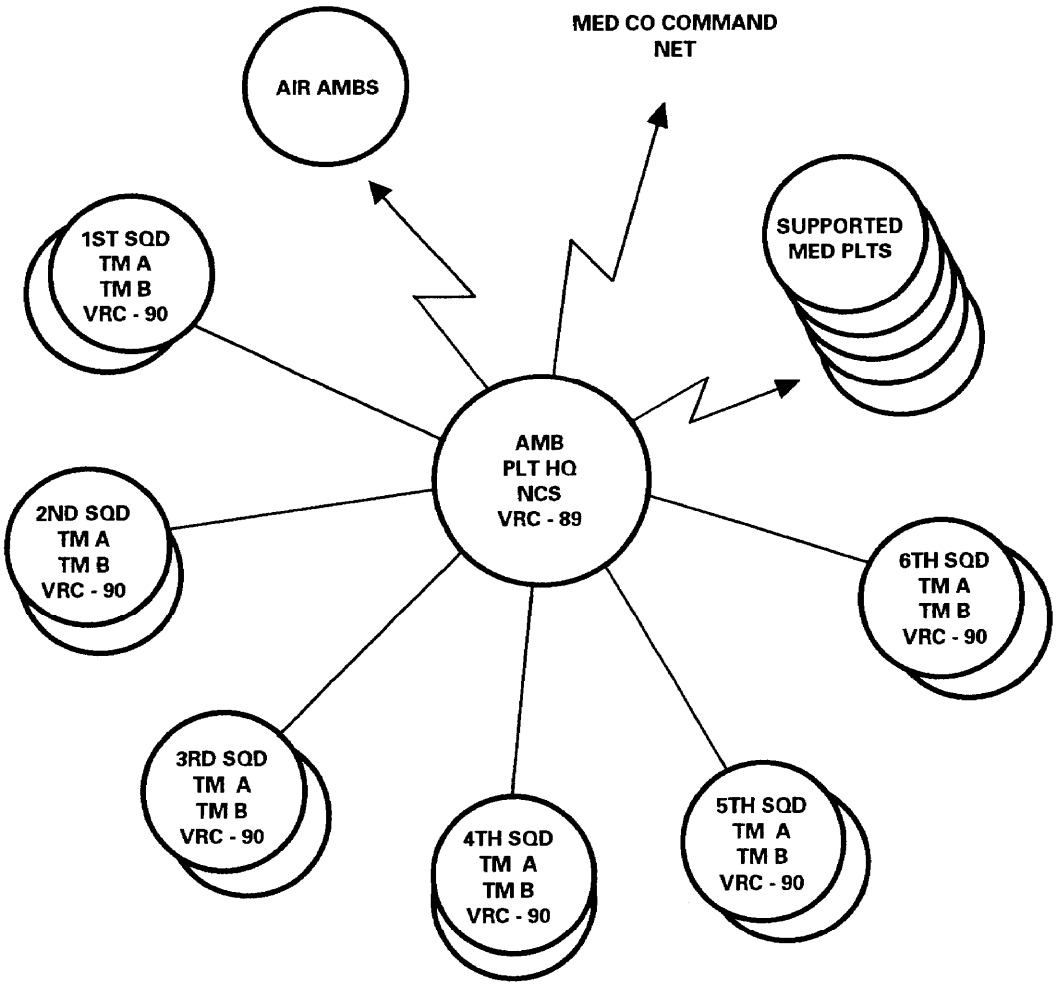


Figure L-4. Dedicated medical evacuation FM net.

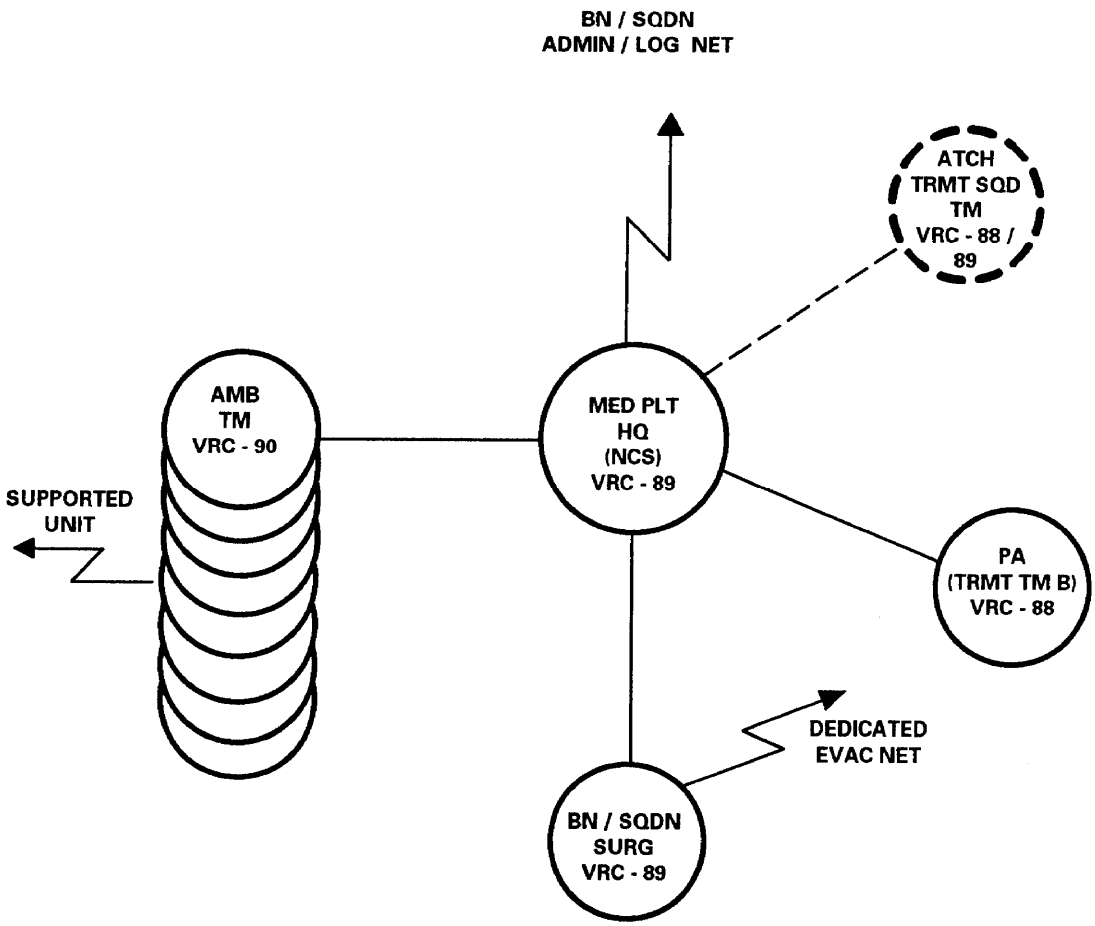


Figure L-5. Sample battalion/squadron aid station medical operations FM net.

L-8. Internal Wire Communications Net

While the medical company/troop employs DVNT MSE, it will still retain its conventional wire communications equipment (SB-22 switchboard and TA-312 telephones) for internal communications. Also, this equipment will be used for external communications until such time as the MSE system is made available to the unit, or as directed by its parent headquarters. Figure L-6 depicts a typical wire net for an MSMC and a medical company of a heavy separate brigade.

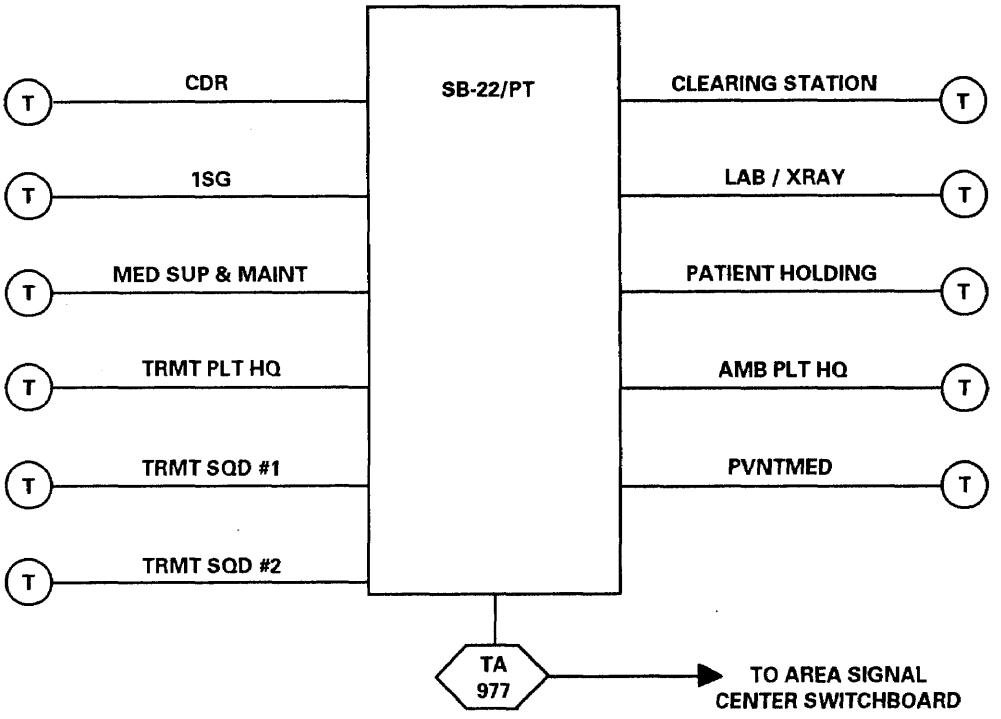


Figure L-6. Sample medical company/troop internal wire net.

APPENDIX M

SPECIAL OPERATIONS SUPPORT BATTALION MEDICAL PLATOON

M-1. Mission Capability

The ARSOF medical platoon provides Echelon I (BAS) medical care and limited Echelon II (clearing station) medical care. It also provides—

- Emergency resuscitative surgery (forward surgical element) for those surgical patients who cannot be transported over great distances without first having been stabilized.
- Evacuation of the sick and wounded.
- Limited medical intelligence capability.
- Communications capabilities.

M-2. Organization and Functions

The platoon (Figure M-1) is organized into a headquarters and treatment section, ambulance section, surgical section, recovery and holding section, and a MEDLOG section. The medical platoon, organic to the headquarters and main support company, is employed within the operational area of the SOSB (airborne). It establishes the ARSOF clearing station (with an organic surgical capability) and provides DS to ARSOF elements on an area basis. This modularly designed unit has the capability to split into two elements and operate at separate locations for a limited period of time. The main element (first element) is comprised of the headquarters and treatment team A, the first squad of the ambulance section, the surgical and recovery/holding teams A, and the MEDLOG section. The second element is comprised of treatment team B, second squad of the ambulance section, surgery and recovery/holding teams B, and supply personnel as required. The medical platoon operates under the supervision of the medical platoon leader who is also the regional or area (staff) surgeon. The surgical element must be task-organized for specific missions when it is required to deploy independently from the clearing station operation.

a. Headquarters and Treatment Section. The headquarters and treatment section is comprised of two elements as shown in Table M-1. This element primarily provides for the administrative and clinical treatment aspects of the unit, communications between incoming evacuation assets (both air and ground) and the clearing station, and serves as the triage element for the surgical section. This section has the capability to split and operate at two separate locations. This section is 100 percent mobile.

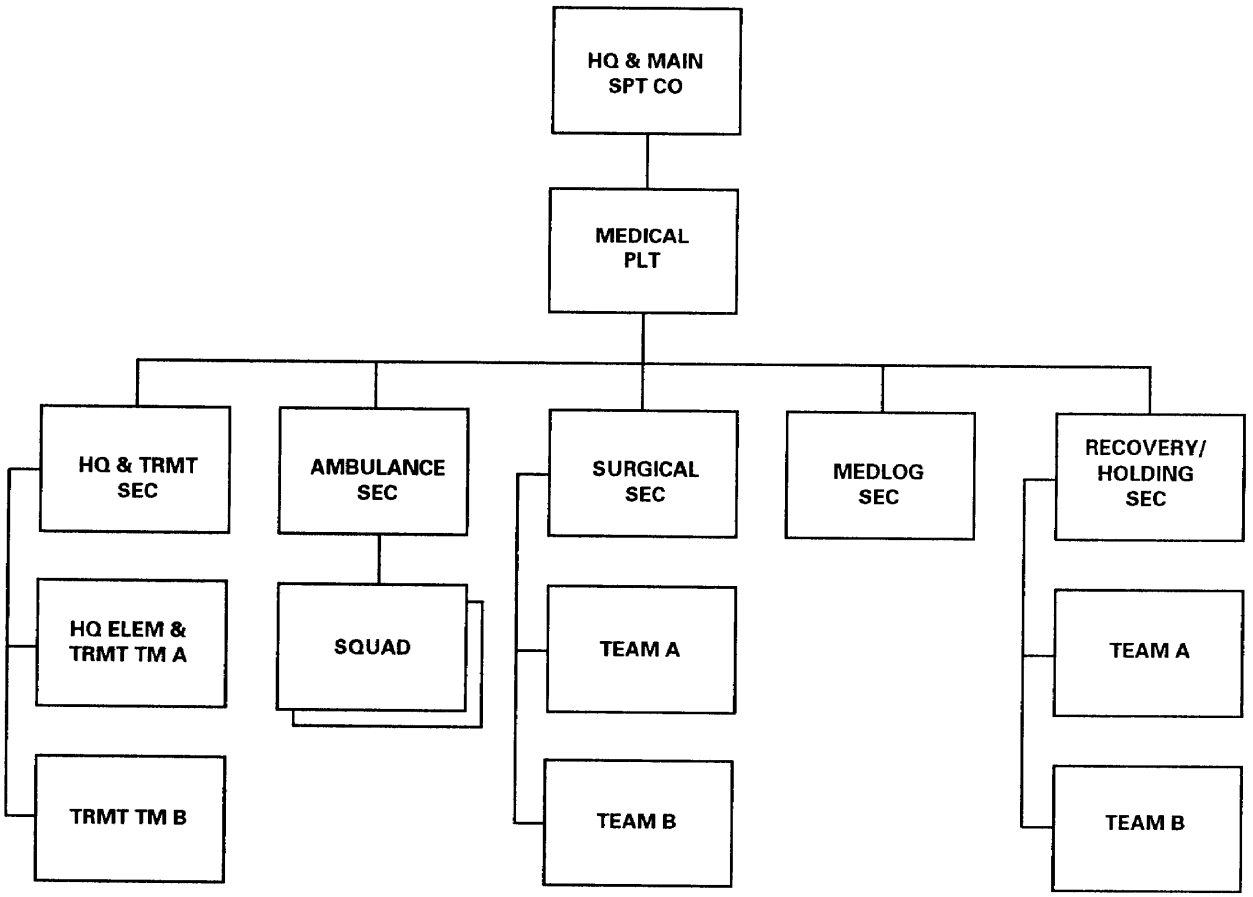


Figure M-1. The special operations support battalion medical platoon.

Table M-1. Typical Organization of the Headquarters and Treatment Section

(Headquarters and Treatment Team A)			
Platoon Leader (Emergency Physician)	MAJ	62A00	MC
Health Services Plans, Operations, Intelligence, and Training Officer/Medical Operations Officer	CPT	67A77	MS
Physician Assistant	CPT	65D00	SP
Special Forces Medical NCO (Platoon Sergeant)	SFC	18D40	NC
Preventive Medicine NCO	SFC	91S4S	NC
Patient Administration Specialist	SPC	71G1P	
(Treatment Team B)			
Field Surgeon (Team Leader)	MAJ	62B00	MC
Physician Assistant	CPT	65D00	SP
Special Forces Medical NCO (EMT)	SSG	18D30	NC
Special Forces Medical NCO (EMT)	SSG	18D30	NC

(1) *Headquarters and treatment team A.* This element along with the first ambulance squad, surgical and recovery/holding teams "A", and the MEDLOG section forms the ARSOF clearing station. Headquarters and treatment team A provides the following:

- Command and control.
- Combat health support operations and planning.
- Triage, ATM, and sick call services.
- Limited emergency dental services.
- Limited Echelon II x-ray and laboratory services.
- Limited PVNTMED services.
- Limited patient accounting, administration, and reporting services.

(2) *Treatment team B.* This second element is part of a total force projection package. Both teams may be deployed into the same theater, then deployed independently or conjointly as the tactical situation dictates. It can also be used to augment ARSOF in a different theater. When deployed separately from team A, it primarily serves as the triage element for surgical team B, This team has the following capabilities:

- Triage, ATM, and sick call services.
- Limited emergency dental services.
- Limited Echelon II x-ray and laboratory services.

b. Ambulance Section. The medical platoon ambulance section (Table M-2) employs two ground ambulance squads (four 2-man ambulance teams). They provide limited ground evacuation to and from the clearing station (with surgical element) and the airhead (or established landing site). These MOS 91B personnel may provide augmentation to the treatment element, if required (such as in a mass casualty situation).

c. Surgical Section. The surgical section is organized as shown in Table M-3. The primary mission of the surgical teams is to provide resuscitative surgery for nontransportable patients to stabilize them for evacuation to an Echelon III facility. The surgical teams receive patients triaged by the treatment teams. This section has the capability to split and operate at two separate locations in tandem with their respective treatment and recovery/holding teams.

Table M-2. Ambulance Squads

(First Squad)			
Aide/Evacuation NCO (Section Chief)	SGT	91B2S	NC
Ambulance Aide/Driver	SPC	91B1S	
Ambulance Aide/Driver	SPC	91B1S	
Ambulance Aide/Driver	PFC	91B1S	
(Second Squad)			
Aide/Evacuation NCO	SGT	91B2S	NC
Ambulance Aide/Driver	SPC	91B1S	
Ambulance Aide/Driver	SPC	91B1S	
Ambulance Aide/Driver	PFC	91B1S	

Table M-3. Surgical Section

(Team A)			
General Surgeon (Section Chief)	MAJ	61J00	MC
General Surgeon	MAJ	61J00	MC
Clinical Nurse Anesthetist	MAJ	66F00	AN
Clinical Nurse Anesthetist	CPT	66F00	AN
Operating Room Nurse	CPT	66E8J	AN
Operating Room Specialist	SGT	91D2P	NC
Operating Room Specialist	SPC	91D1P	
(Team B)			
General Surgeon (Team Leader)	MAJ	61J00	MC
General Surgeon	MAJ	61J00	MC
Clinical Nurse Anesthetist	MAJ	66F00	AN
Clinical Nurse Anesthetist	CPT	66F00	AN
Operating Room Nurse	CPT	66E8J	AN
Operating Room Specialist	SGT	91D2P	NC
Operating Room Specialist	SPC	91D1P	

d. Recovery and Holding Section. The recovery and holding section is organized as shown in Table M-4. The teams provide postoperative ward recovery and holding care for surgical patients. The section deploys 16 recovery beds (8 per team). The recovery/holding teams operate in tandem with their companion surgical teams. The holding capability is evacuation sensitive. Patients may be held as the tactical situation dictates or until such time as they are considered stable enough to tolerate a bed-to-bed transfer. The risk of moving the patient must be weighed against the needs of incoming casualties and the tactical situation. The actual selection of a patient for evacuation is the responsibility of the attending physician.

e. Medical Logistics Section. The MEDLOG section is organized as depicted in Table M-5. This section coordinates for, receives, temporarily stores, and issues Class VIII supplies (to include oxygen, resuscitative fluids, and blood). The section can receive, distribute, and temporarily store up to 2.0 short tons of medical supplies at its base location and up to 0.5 short tons of supplies at another location. It also provides limited medical equipment maintenance support. The MEDLOG section locates and is routinely employed with the headquarters and treatment team A. However, it has the capability to provide two medical logistical personnel to operate a MEDLOG site at a separate location.

Table M-4. Recovery/Holding Section

(Team A)			
Medical-Surgical Nurse (Section Chief)	MAJ	66H8A	AN
Medical-Surgical Nurse	CPT	66H8A	AN
Practical Nurse	SSG	91C3P	NC
Practical Nurse	SSG	91C3P	NC
Practical Nurse	SGT	91C2P	NC
(Team B)			
Medical-Surgical Nurse (Team Leader)	CPT	66H8A	AN
Medical-Surgical Nurse	CPT	66H8A	AN
Practical Nurse	SSG	91C3P	NC
Practical Nurse	SGT	91C2P	NC
Practical Nurse	SGT	91C2P	NC

Table M-5. Medical Logistics Section

Health Service Materiel Officer	CPT	67A78	MS
*Medical Supply Sergeant	SSG	76J3S	NC
Medical Equipment Repair Specialist	SPC	35G1P	
*Medical Supply Specialist	SPC	76J1P	
Medical Supply Specialist	SPC	76J1P	

*May accompany treatment team B, as required.

M-3. Unit Layout and Establishment of Facilities

a. Clearing Station Operations. The SOSB medical platoon can establish the clearing station operation at one location or at two separate locations simultaneously. As with all MTFs, the following should be considered:

- The facility must be laid out in a manner which maximizes patient flow from one element to another within the MTF area. Overlapping internal traffic patterns should be avoided.

- Adequate space must be allocated to accommodate possible augmentation of the treatment or surgical elements.

- Sufficient space must be allocated to allow for ambulance turnaround and easy access to aircraft landing sites.

b. Forward Surgical Element. The forward surgical element (task-organized for a specific mission) can be deployed independently of the clearing station operation for a limited period of time. (The capability of the clearing station operation is effectively reduced while the forward surgical element is independently deployed.) In planning this type of operation, the insertion means is of particular importance. The CHS planner must consider the trade-offs presented either by inserting the element by airborne operations or by airlanding these resources. The greatest mobility and the reduction of damage to sensitive medical equipment is achieved by airlanding the forward surgical element. This is the preferred means of insertion. The weight and cube and the number of airframes required for this method, however, is greater than is necessary for airborne insertion. By airlanding this treatment element, it deploys with its organic vehicles which enable the forward surgical element to displace from the landing zone and establish the MTF where required. The disadvantages of an airborne insertion are the increased damaged to sensitive equipment and the reality that the MTF must be established where it is dropped, as it does not have the organic capability to move its equipment. Therefore, site selection for the drop zone is of particular importance.

M-4. Combat Health Support to Army Special Operations Forces

Combat health support for ARSOF operations is accomplished by unit-level organic CHS assets, the SOSB, and the theater army medical command. A combination of organic, DS, and GS resources are required to effectively accomplish the CHS mission. Further, supported ARSOF elements conduct unconventional warfare (UW), foreign internal defense (FID), counterterrorism, direct action, and special reconnaissance operations across the spectrum of Army Operations. Mission priorities vary from theater to theater. These elements are specifically tailored to organize, equip, train, direct, control, and support indigenous forces. Although each mission is treated separately, they are all interrelated. Some situations will dictate that a committed ARSOF element conduct more than one mission at one time.

a. Special Reconnaissance Missions. These missions are usually conducted deep into hostile territory. Aeromedical evacuation is normally not possible due to the covert nature of the operation and the potential for compromising the mission. The inserted teams must rely on Echelon I care (self-aid / buddy aid, combat lifesaver skills, and the ARSOF medic [MOS 18D]) until the mission is accomplished and the teams are exfiltrated. Prior to the initiation of the mission, the SOSB provides updated medical threat information and appropriate PVNTMED measures and supplies. When teams are exfiltrated, the SOSB medical platoon ensures that the patients are sufficiently stable to be further evacuated to appropriate Echelon III hospitals. Also, the SOSB coordinates for additional conventional CHS resources with the appropriate security clearances, if required.

b. Direct Action Missions. Direct action missions are normally conducted by ARSOF in hostile or denied areas beyond the operational capability of tactical weapons systems and conventional maneuver forces. Direct action operations are usually limited in scope and duration, but may include long-term, stay-behind operations. Conventional CHS for this type of operation focuses

mainly on hospitalization. Organic ARSOF medical resources provide stabilization and evacuation of wounded or injured ARSOF personnel. As these types of operation are conducted in hostile or denied territory, evacuation is accomplished by infiltration/exfiltration platforms. The SOSB may be tasked to provide medical augmentation for infiltration/exfiltration platforms to provide en route medical care to the patients being extracted.

c. Counterterrorism Operations. Combat health support planning for these types of operations includes the tailoring of CHS resources to effectively support the mission. Medical supplies and equipment are kept to an acceptable minimum to support emergencies and routine illnesses. Plans and pre-mission training should focus on EMT and ATM procedures and the treatment of mass casualties. The SOSB provides resupply support to committed ARSOF and ground evacuation support, if feasible.

d. Unconventional Warfare Operations. The objectives of CHS operations in UW are to conserve the guerrilla forces fighting strength and to assist in securing local population support for US and resistance forces operating within the theater. These operations are normally covert or clandestine in nature. Further, often times there are no established MTFs to which the patients can be taken; rather they must be taken with the force, or medical personnel may establish patient-collecting points where the wounded or ill can be left. The UW medical mission is accomplished through training indigenous forces in self-aid/buddy aid and combat lifesaver skills, as well as training resistance medical personnel, providing PVNTMED expertise, providing EMT and ATM to battle casualties, and evacuating patients to friendly areas when possible. Preventive medicine measures must be taught and enforced to reduce the effects of DNBI on resistance forces. The SOSB provides emergency resupply of critical Class VIII supplies; augments committed teams with limited PVNTMED resources; provides a surgical capability for committed teams, when required; and coordinates and/or provides medical evacuation support.

e. Foreign Internal Defense.

(1) Foreign internal defense is not solely an ARSOF mission, rather it is a joint and interagency mission in which ARSOF participates. When US and/or multinational participation is invited by the HN, this mission assists the government which is faced with internal threats to stability and security. The ARSOF role usually includes organizing, training, advising, and assisting HN military and paramilitary forces. Civil-military operations that focus on the relationship between US military forces and the indigenous population are critical for FID operations. Medical services have proven to be one of the most effective ways to gain support for the HN government. Medical assistance programs are requested by the HN government. Programs can include, but not be limited to—

- Providing medical treatment.
- Educating personnel in basic sanitary procedures, hygiene, and other PVNTMED measures.
- Providing sanitary facilities and control of waste disposal.

- Improving the quality of drinking water.
- Conducting immunization programs.

(2) The SOSB medical platoon modular design is ideally suited for providing the required support. Teams can be deployed to target areas to perform training or to provide medical care. The PVNTMED NCO can conduct entomological surveys, develop programs to counter the medical threat, and train indigenous personnel. Additionally, the SOSB can provide limited dental support. The SOSB coordinates for veterinary support, as required.

f. Additional Information. For additional information, refer to FM 8-10-6 and FM 8-42.

APPENDIX N

CLINICAL STANDING OPERATING PROCEDURE

N-1. General

a. This appendix provides a sample CSOP for use within a clearing station. It is different than the TSOP as it focuses on the clinical aspects of the unit's operation.

b. Appendix E contains information on the format of the TSOP. This format may also be used when developing the CSOP, if desired.

c. The sample CSOP provided in this appendix is merely an outline and should not be considered as all inclusive. The information contained in this sample is not sufficiently detailed to enable a unit to implement the CSOP as it is written. The addition of treatment protocols, command guidance, clearing station policies, and other pertinent regulations, directives, and procedures is required.

N-2. Purpose of the Clinical Standing Operating Procedure

a. This CSOP prescribes policy and provides guidance on the routine operation of patient treatment and support elements within the clearing station. Each clinical element is required to develop, maintain, and update their CSOP.

b. Once completed, it is reviewed and approved by the commander.

c. The content of the CSOP should not contradict or impede the implementation of the TSOP. Should differences in the two documents occur, they are to be resolved by the approving authority.

N-3. Sample Clinical Standing Operating Procedure

a. *Treatment Platoon.* The following topics should be considered:

(1) *Treatment section.*

- Triage procedures
- Treatment protocols.
- Routine and emergency patient care management.
- Staffing, length of shift, and relief procedures and requirements.
- Controlled substance procedures and records.

- Coordination requirements with the PAD specialist, to include medical evacuations, release of RTD, and maintenance of the field individual medical records (including disposition of the FMC).
- Coordination for radiology and medical laboratory services, to include blood and blood products.
- Procedures for the collection and safeguarding of weapons and munitions which arrive with the patients.
- Policy on disposition of patient's personal protective gear (such as mask and MOPP overgarments).
- Logistic requirements and procedures for obtaining supply/resupply (both general and medical), to include property exchange (litters and blankets).
- Notification requirements as directed by the commander.
- Death procedures.
- Scope of practice of MOS 91B personnel.
- Mass casualty operations (see paragraph *e* below.)
- Procedures for the disposal of medical waste.
- Reporting of unusual occurrences.
- Policy and procedures for the care and treatment of nonmilitary personnel.
- Policy and procedures for the care and treatment of non-US personnel.
- Policy and procedures for the care and treatment of EPW.
- Medical evacuation, to include receiving patients arriving by helicopter and ground assets.
- Establishment of a triage area, to include a patient decontamination station should contaminated casualties be evacuated to the facility.
- Supervision of nonmedical patient decontamination team.
- Training and use of litter teams.
- Procedures for the release of medical information on patients.

- Infection control procedures.
- Coordination requirements for power generation and refrigeration capabilities, if required.
- Procedures for medical activities affected by the Uniformed Code of Military Justice such as treating soldiers with self-inflicted wounds, rape, or other similar situations.
- Procedures for medical equipment maintenance.
- Safety.
- Fire evacuation plan.

(2) *Area support section.*

(a) Area support treatment squad. Same as (1) above.

(b) Area support squad. The following topics should be considered:

- Procedures for controlled substance inventory, dispensing requirements, registry, destruction procedures, discrepancy reports, and requisitions.
- Key control.
- Requirements for refrigeration support.
- Rotation of medication stocks.
- Preparation of required reports.
- Infection and chemical hazard control procedures.
- Procedures for hematology and urinalysis services.
- Procedures for microbiology and serology services.
- Procedures for obtaining specimens.
- Procedures and requirements for shipping specimens to more sophisticated laboratories.
- Procedures for medical waste disposal.
- Procedures for storing blood and blood products.

- Blood planning factors.
- Establishment of x-ray exposure area.
- Procedures for the operation of the darkroom.
- Film control procedures.
- Security.
- Radiation safety rules.
- Shielding of patients and medical personnel.
- Electrical and mechanical safety rules.
- Procedures for the performance of routine radiographic views.
- Accomplishment of weekly processor tests.
- Establishmen tof quality control procedures.
- Maintenance of equipment records.
- Procedures for disposition of radiographs.
- Dental protocols and procedures.
- Procedures for personal protection (gloves, masks) measures during dental procedures.

(c) Patient-holding squad. The following topics should reconsidered:

- Scope of nursing practice (MOS 91C).
- Patient accountability.
- Shift change policies and procedures.
- Holding area staffing.
- Establishment of methods and procedures for documentation.
- Establishment of infection control procedures.

- Care for injection sites and IV treatments.
- Maintenance of equipment.
- Establishment of bedpan and urinal washing procedures.
- Procedures for disinfecting facilities.
- Infectious waste disposal.
- Procedures for handwashing.
- Location and access to field sinks and latrines for both patients and staff.
- Controlled substance procedures and reports.
- Death procedures to include notifications, as required.
- Procedures for preparing required reports.
- Procedures for taking hold patients to field feeding site(s).

NOTE

Patients requiring modified diets are evacuated to corps/COMMZ hospitals where both patient rations (Medical B Rations) and personnel trained in modified diets (MOS 91M) are available. Patients held in the holding squad are normally ambulatory and on a regular diet and may require minimal assistance in obtaining rations.

b. *Ambulance Platoon.* The following topics should be considered:

- Procedures for inspecting and maintaining MESs.
- Procedures for the supply/resupply of medical supplies and equipment.
- Treatment protocols for the provision of en route medical care.
- Protocols for the use of military anti-shock trousers (MAST).
- Procedures for the rotation of medication stocks.

- Procedures for the property exchange (litters and blankets).
- Procedures for mass casualty situations, to include the use of ambulance shuttles.
- Procedures for staffing AXPs, if required.
- Procedures for the evacuation of outpatient treatment to the next echelon of care and for return to duty.

c. *Augmentation.*

(1) *Surgical.*

- Surgical procedures, to include emergency surgeries.
- Operating room (OR) staffing, to include duty rosters and on-call rosters.
- Aseptic technique practices.
- Procedures for preparation of the maintenance register.
- Preparation of the patient for surgery.
- Emergency blood requests.
- Sterile instruments and supplies.
- Treatment protocols for medical emergencies, such as for anaphylaxis reaction.
- Provision of immediate postoperative care (in patient-holding area). (Registered nurses are part of the augmentation).
- Scrub attire and surgical hand-scrub procedures.
- Environmental safety.
- Medical waste disposal procedures.
- Operating room sanitation.
- Procedures for counting sponges and sharps.
- Patient deaths, to include notifications requirements.

- Procedures for performing cardiac arrest procedures.
- Establishment of traffic patterns, to include transportation of patients to and from the OR and transportation of sterile, clean, and dirty equipment.
- Procedures for handling contaminated sharps.
- Preparation of required reports.
- Equipment checklists.
- Procedures for taking patient medical histories if time and the patient's medical condition permits.
- Inventory and maintenance of controlled substances.
- Infection control procedures.
- Combustibles and cleaning products storage.
- Quality control procedures for equipment.
- Procedures for inventorying and maintaining medical gases.
- Procedures for use of steam sterilizer.
- Procedures for monitoring sterilization process.
- Maintenance of stockage levels in the OR.

(2) *Combat stress control.* The following topics should be considered:

- Procedures for segregating BFC from other patients being held.
- Patient accountability procedures.
- Procedures for ensuring sufficient holding capability is available.
- Delineation of responsibilities and actions required of the CSC personnel in the management of their patients.

d. Temporary Morgue Area.

- Site selection for this area to ensure adequate shielding from other patients.

- Procedures for the management of this area.

e. Mass Casualty Situations. When mass casualty situations occur, all nonessential patient care activities and support services (such as logistic and personnel) are temporarily suspended. The traffic patterns within the MTF are also temporarily changed and marked in order to move patients to holding and treatment areas based on their medical condition and assigned treatment precedence. Other activities include—

- Establishment of a control cell to coordinate hospital activities.
- Establishment of the triage area. (Normally a senior NCO or medical officer performs the triage function.)
- Establishment of a patient decontamination station, if required. (This includes supervising the patient decontamination process performed by nonmedical personnel.)
- Patient triage and assignment of a treatment precedence.
- Establishment of a litter bearer pool comprised of nonmedical personnel. (These teams will move patients from evacuation vehicles to the triage point and within the MTF to the various diagnostic and treatment areas.)
- Execution of internal patient movements to appropriate holding and treatment areas based on their assigned precedence for treatment, monitoring, or observation,
- Establishment of internal traffic pattern to ensure a smooth patient flow without having to overlap and/or retrace traffic patterns.
- Establishment of procedures for limiting access to MTF area by visitors or other nonessential personnel.
- Provision of updates on the medical situation periodically and through a central point.

f. Patient Support Services.

(1) *Logistics.* The logistics SOP can be addressed in either the CSOP or the TSOP, or it may be addressed in both with emphasis on the health service logistics portion in the CSOP. Logistics functions include—

- Inventory control procedures and preparation of requisitions.
- Procedures for the maintenance and repair of medical equipment.
- Coordination for repairs that cannot be accomplished by organic capability.

- Pick up and delivery of medical supplies to include controlled substances.
- Property exchange procedures.
- Coordination for waste disposal, to include medical waste.
- Coordination for pest management support.
- Coordination for laundry and bath services.

(2) *Patient administration.*

- Procedures for the maintenance of individual field medical records.
- Compilation of medical statics and preparation of reports.
- Coordination for medical evacuation support.
- Policies regarding the inventorying and safeguarding of patient property and weapons.

GLOSSARY

ABBREVIATIONS, ACRONYMS, AND DEFINITIONS

A^2C^2 Army airspace command and control

ABCA American, British, Canadian, and Australian

ACofS Assistant Chief of Staff

ACR armored cavalry regiment

ACUS area common user system

AD archives device

ADA air defense artillery

ADMIN administrative

ADP automatic data processing

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.

AFMIC Armed Forces Medical Intelligence Center

Air STD air standard

ALT alternate

AM amplitude modulation

AMB ambulance

ambulance control point The ambulance control point consists of a soldier (from the ambulance company or platoon) stationed at a crossroad or road junction where ambulances may take one of two or more directions to reach loading points. The soldier, knowing from which location each loaded ambulance has come, directs empty ambulances returning from the rear. The need for control points is dictated by the situation. Generally, they are more necessary in forward areas.

ambulance exchange point A location where a patient is transferred from one ambulance to another en route to an MTF. This may be an established point in an ambulance shuttle or it may be designated independently.

ambulance loading point This is a point in the shuttle system where one or more ambulances are stationed ready to receive patients for evacuation.

ambulance relay point This is a point in the shuttle system where one or more ambulances are stationed ready to advance to a loading point or to the next relay point to replace an ambulance that has moved from it. As a control measure, relay points are generally numbered from front to rear.

ambulance shuttle system The ambulance shuttle system is an effective and flexible method of employing ambulances during combat. It consists of one or more ambulance loading points, relay points, and when necessary, ambulance control points, all echeloned forward from the principal group of ambulances, the company location, or basic relay points as tactically required.

AMEDD Army Medical Department

AM-HF amplitude modulated-high frequency

AN Army Nurse Corps

AO area of operations

APTT partial thromboplastin time

AR Army Regulation

ARMD armored

ARSOF Army Special Operations Forces

ASMB area support medical battalion

ASMC area support medical company

ASOFDTG as of date/time group

ATCH attach

ATK attack

ATM *See* advanced trauma management.

ATP ammunition transfer point

ATTN attention

augmentation is a command relationship. Units that are designated to augment another unit are, therefore, not available to the losing command for the period of augmentation.

AVIM aviation intermediate maintenance

AXP *See* ambulance exchange point.

BAS battalion aid station

BCOC base cluster operations center

Bde brigade

BECS Battlefield Electronics Communications-Electronics System

BF battle fatigue

BFC battle fatigue casualty

BLDEST blood estimate (requirements)

BLDEXP blood expired

BLDINV blood inventory

BLDREP blood report

BLDREQ blood request

BMSO brigade medical supply office

BN battalion

BOIP basis-of-issue plan

BR branch

brigade support area A designated area from which combat service support elements from DISCOM and corps support command provide logistics support to the brigade. The BSA normally is located 20 to 25 kilometers behind the FEBA.

BSA *See* brigade support area.

BTC Blood Transshipment Center

Btry battery

BTU British thermal unit

BUN blood urea nitrogen

BW biological warfare

C^2 command and control

C^4I command, control, communications, computers, and intelligence

C Centigrade/Celsius; chief

CAM Chemical Agent Monitor

casualty Any person who is lost to his organization by reason of having been declared dead, wounded, injured, diseased, interned, captured, retained, missing, missing in action, beleaguered, besieged, or detained.

CAV cavalry

CBC complete blood count

CBT combat

CCIR commander's critical intelligence requirements

Cdr commander

C-E communications-electronics

cGy centigray

CHS combat health support

Cl chloride

CLK clerk

CLR clearing

CM centimeter

CMD command

CMO civil-military operations

CNR combat net radio

CNS central nervous system

CO company/carbon monoxide

CO_2 carbon dioxide

COA course of action

collecting point (patient) A specific location where casualties are assembled to be transported to a medical treatment facility. It is usually predesignated and maybe either staffed or not. The echelon designating the point provides the staffing.

COLL PT *See* collecting point (patient).

combat service support The assistance provided to sustain combat forces, primarily in the fields of administration and logistics. It includes administrative services, chaplain services, civil affairs, food service, finance, legal services, maintenance, combat health support, supply, transportation, and other logistical services.

combat support Consists of fire support and operational assistance provided to combat elements. It includes field artillery, air defense artillery, engineer, military police, signal, military intelligence, and chemical.

combat trains Is the portion of the unit trains that provides combat service support required for immediate response to the needs of forward tactical elements. At company level, combat health support, recovery, and maintenance elements normally constitute the combat trains. At battalion, the combat trains normally consist of ammunition, petroleum, oils, and lubricants, vehicles, maintenance/recovery vehicles and crews, and the battalion aid station. *(See also* field trains; unit trains.)

combat zone 1. That area required by combat forces for the conduct of operations. 2. The territory forward of the Army rear boundary.

communications zone Rear area of the theater of operations (behind but contiguous to the combat zone) which contains the lines of communication, establishments for supply and evacuation, and other agencies required for the immediate support and maintenance of the field forces.

COMMZ *See* communications zone.

company aid post A company aid post is a designated location on the battlefield where a combat medic provides emergency medical treatment to casualties awaiting evacuation. This point is similar to the collecting point (patient) except that it is manned by one of the company combat medics or medical platoon's aide/evacuation team.

COMSEC communications security

constructive patients In training situations, these are representation of patients in reports, messages, or other written and oral communications; they do not require physical movement or care.

CONUS continental United States

CP command post

CPK creatine phosphokinase

CPS collective protection shelter

CPT Captain

CRO carded for record only

CRT control receiver-transmitter

CS *See* combat support.

CSA corps support area

CSC combat stress control

CSF cerebrospinal fluid

CSH combat support hospital

CSM command sergeant major

CSOP clinical standing operating procedure

CSS *See* combat service support.

CSSCS Combat Service Support Control System

Ct count

CZ *See* combat zone.

D distance

DA Department of the Army

DD/DOD Department of Defense

DDL Daily Disposition Log

DE directed energy

DEN dental

DEST destination

DISCOM division support command

DISP disposition

DIV division

division support area An area normally located in the division rear area positioned near airlanding facilities and along the main supply route. The DSA contains the DISCOM command post, headquarters elements of the DISCOM battalions, and those DISCOM elements charged with providing backup support to the combat service support elements in the brigade support area and direct support units located in the division rear. Selected corps support command elements in the division may be located in the DSA to provide direct support backup and general support as required.

DMCC division movement control center

DMMC division materiel management center

DMOC division medical operations center

DMSO division medical supply office

DNBI disease and nonbattle injury

DNVT digital nonsecure voice telephone

DOA dead on arrival

DOW died of wounds

DS direct support

DSA *See* division support area.

DTF dental treatment facility

DTG date-time group

DTO division transportation office

EAC echelons above corps

ECCM electronic counter-countermeasures

EEI essential elements of information

ELEM element

EMS emergency medical service

EMT emergency medical treatment

EN electronic notebook

ENGR engineer

EOC emergency operations center

EPW enemy prisoners of war

ETE estimated time en route

EVAC evacuation

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 the responsible medical officers, 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.

EW electronic warfare

F Fahrenheit

FA field artillery

FARP *See* forward arming and refueling point.

FAX facsimile

FEBA forward edge of the battle area

FH field hospital

FID foreign internal defense

field trains is the combat service support portion of a unit at company and battalion level that is not required to respond immediately. At company level, supply and mess teams normally will be located in the field trains. A battalion's field trains may include mess teams, a portion of the supply section of the support platoon, a maintenance element, as well as additional ammunition and POL. Positioning of the field trains is dependent on such factors as the type

of friendly operation underway, available suitable terrain, and intensity of enemy activity in the area. *(See also* combat trains; unit trains.)

first aid Urgent and immediate lifesaving or other measures which can be performed for casualties (or performed by the victim himself) by nonmedical personnel when medical personnel are not immediately available.

lSG first sergeant

FLD field

FLOT forward line of own troops

FLT flight

FM frequency modulation; field manual

FMC US Field Medical Card (DD Form 1380)

FORSCOM United States Army Forces Command

forward arming and refueling point A temporary facility that is organized, equipped, and deployed by an aviation unit commander, and located closer to the area of operations than the aviation unit's combat service support area. It provides fuel and ammunition necessary for the employment of helicopter units in combat.

frag fragmentation

FRAGO fragmentary order

FREQ frequency

FSB forward support battalion

FSMC forward support medical company

FOUO fever of unknown origin

G1 Assistant Chief of Staff, G1 (Personnel)

G2 Assistant Chief of Staff, G2 (Intelligence)

G3 Assistant Chief of Staff, G3 (Operations)

G4 Assistant Chief of Staff, G4 (Logistics)

G5 Assistant Chief of Staff, G5 (Civil-Military Operations)

GE German

GEN generator

GH general hospital

GP general purpose

GPS global positioning system

Grp/Gp group

GRREG graves registration

GS general support

GSW gunshot wound

Hct hematocrit

HEL helicopter

HHC headquarters and headquarters company

HHT headquarters and headquarters troop

HLDG holding

HLT health

HMMWV high-mobility multipurpose wheeled vehicle

HN host nation

HQ headquarters

hr(s) hour(s)

HREC health record

HSMO health service materiel officer

HTH calcium hypoclorite

ID identification

IHFR improved high-frequency radio

IM infectious mononucleosis

IMA Individual Mobilization Augmentee

Inf infantry

initial point of treatment Any point within the combat health support system at which a soldier is seen and treated by trained medical personnel.

INTEL intelligence

IRR Individual Ready Reserve

ITRCS inpatient treatment record cover sheet

IV intravenous

JUN June

K potassium

kg kilogram

kHz kilohertz

KIA killed in action

KIH kilometers in the hour

km kilometers

KOH potassium hydroxide

KPH kilometers per hour

KW kilowatt

L- left

LAB laboratory

LBE load bearing equipment

LC line of contact

LD line of departure

LDF lightweight digital facsimile

LDR leader

LID light infantry division

lines of patient drift Natural routes along which wounded soldiers maybe expected to go back for medical care from a combat position.

LOA limit of advance

LOC lines of communications

LOD line of departure

LOG logistics

LTOE living table of organization and equipment

M meter

MA mortuary affairs

MAINT maintenance

MAJ Major

Mar March

MASH mobile army surgical hospital

MAST military anti-shock trousers

MAT materiel

MBA main battle area

MC Medical Corps

MCC movement control center

MCO movement control office

MCSB misconduct stress behavior

MCT movement control team

MED medical; medium

MEDASM medical assemblages

MEDEVAC medical evacuation

medical equipment set A chest containing medical instruments and supplies designed for specific table of organization and equipment units or specific missions.

medical treatment facility Any facility established for the purpose of providing medical treatment. This includes battalion aid stations, clearing stations, dispensaries, clinics, and hospitals.

MEDLOG medical logistics

MEDMNT medical maintenance

MEDPAR medical patient accounting and reporting

MEDREP medical report

MEDSTEP Medical Standby Equipment Program

MEDSUP medical supply

MEDTCU medical transportable computer unit

MES *See* medical equipment set.

METT-T mission, enemy, terrain, troops, and time available

MGT management

MH mental health

mHz megahertz

Mi miles

MI myocardial infarction

MIA missing in action

MIH miles in the hour

MIJI meaconing, intrusion, jamming, and interference

ml milliliter

MILVAN military van

Min minute

MOPP mission-oriented protective posture

MOS military occupational specialty

MOUT military operations on urbanized terrain

MPH miles per hour

MRE meals, ready-to-eat

MRO medical regulating office

MS Medical Service Corps

MSB main support battalion

MSE mobile subscriber equipment

MSGID message identification

MSMC main support medical company

MSR main supply route

MTF *See* medical treatment facility.

MTOE modified table of organization and equipment

MTP mission training plan

Na sodium

NA not applicable

NAT nationality

NATO North Atlantic Treaty Organization

NBC nuclear, biological, and chemical

NBI nonbattle injury

NC node center; noncommissioned officer

NCA National Command Authorities

NCD net control device

NCO noncommissioned officer

NCS net control station

NLT not later than

NO. number

Nov November

NP neuropsychiatric

NVG night vision goggles

OBJ objective

OCONUS outside the continental United States

OEG operational exposure guidance

OFF officer

OOTW operations other than war

OP/OPR operator

OPCON *See* operational control.

operational control The authority delegated to a commander to direct forces assigned so that the commander may accomplish specific missions or tasks that are usually limited by function, time, or location; to deploy units concerned, and to retain or assign tactical control of those units. It does not of itself include administrative or logistic control. In NATO, it does not include authority to assign separate employment of components of units concerned.

OPFAC operational facility

OPLAN operation plan

OPORD operation order

OPS operations

OPSEC operations security

OPT optometry

OR operating room

PA physician assistant

PAD patient administration

PARA paragraph

passage of lines Passing one unit through the position of another, as when elements of a covering force withdraw through the forward edge of the main battle area, or when an exploiting force moves through elements of the force that conducted the initial attack. A passage may be designated as a forward or rearward passage of lines.

patient A sick, injured, or wounded soldier who receives medical care or treatment from medically trained personnel.

PD point of departure

PDS Personnel Daily Summary

PE&MR Patient Evacuation and Mortality Report

PFC private first class (E3)

PL phase line

PLGR precision lightweight global positioning system receiver

PLL prescribed load list

PLT platoon

PLX pharmacy, laboratory, and radiology (x-ray)

PMCS *See* preventive maintenance checks and services.

PNT *See* patient.

POE port of embarkation

POL petroleum, oils, and lubricants

POM/POR processing for oversea movement/replacement

POS/NAV position/navigation

POSTOP postoperative

PPW patient protective wrap

PREOP preoperative

preventive maintenance checks and services Preventive maintenance checks and services is the care, servicing, inspection, detection, and correction of minor faults before these faults cause serious damage, failure, or injury. The procedures and the category of maintenance to perform PMCS are found in the -10 and -20 equipment technical manuals and lubrication orders.

PS power source

psi pounds per square inch

PSR Patient Summary Report

PT prothrombin time

PTSD post-traumatic stress disorders

PU printer unit

PVNTMED preventive medicine

PW prisoner of war

QSTAG Quadripartite Standardization Agreement

R rate

R- right

RAU radio access unit

RBC red blood cell

RECON reconnaissance

reconstitution The total process of keeping the force supplied with various supply classes, services, and replacement personnel and equipment required to maintain the desired level of combat effectiveness and of restoring units that are not combat effective to the desired of combat effectiveness through the replacement of critical personnel and equipment. Reconstitution encompasses unit regeneration and sustaining support.

REGT regimental

RMC remote multiplexer combiner

RMSO regimental supply office

RMSS regimental medical supply section

RP release point

RPR rapid plasma reagin

RPT(S) report(s)

RT receiver/transmitter

RTD return to duty

S1 Adjutant (US Army)

S2 Intelligence Officer (US Army)

S3 Operations and Training Officer (US Army)

S4 Supply Officer (US Army)

SAEDA Subversion and Espionage Directed Against the US Army

SB supply bulletin

SEC section

SF standard form; Special Forces

SFC sergeant first class (E7)

SGOT serum glutamic-oxaloacetic transaminase

SGPT serum glutamic-pyruvic transaminase

SGT sergeant (E5)

simulated patients In training situations, these are individuals who do not have a real wound, injury, or illness but must be physically moved or cared for to meet training and evaluation requirements.

SINCGARS Single Channel Ground and Airborne Radio System

SOF Special Operations Forces

SOI signal operating instructions

SOP standing operating procedures

SOSB special operations support battalion

SP start point; Army Medical Specialist Corps

SPC specialist (E4)

spot report A concise narrative report of essential information covering events or conditions that may have an immediate and significant effect on current planning and operations that is afforded the most expeditious means of transmission consistent with requisite security. (Note: In reconnaissance and surveillance usage, the spot report is not to be used.)

SPT support

SQD squad

Sqdn squadron

SSG staff sergeant

SSN social security number

STA station

STANAG The acronym for a NATO Standardization Agreement. The NATO consists of 15 member nations allied together for military interoperability in both equipment and methods of operations. As each STANAG is adopted, it becomes a part of each nation's unilateral procedures and is incorporated into national doctrinal and procedural publications.

SUP supply

support is an action which aids, protects, complements, or sustains another force in accordance with an order requiring such action. Units that are supporting another unit remain under the control of the headquarters providing the support.

SURG surgical

SVC service

SW shrapnel wound

T1 Intermediate treatment group (nuclear casualty)—those patients requiring immediate lifesaving surgery. Procedures should not be time-consuming and concern only those with a high chance of survival, such as respiratory obstruction or accessible hemorrhage.

T2 Delayed treatment group (nuclear casualty)—those patients requiring surgery, but whose conditions permit delay without unduly endangering safety. Life-sustaining treatment such as intravenous fluids, antibiotics, splinting, catheterization, and relief of pain may be required in this group. Examples are fractured limbs and uncomplicated burns.

T3 Minimal treatment group (nuclear casualty)—those patients with relatively minor injuries, such as minor fractures or lacerations, who can be helped by untrained personnel or who can look after themselves. Buddy care is particularly important in this category.

T4 Expectant treatment group (nuclear casualty)—those patients with serious or multiple injuries requiring intensive treatment, or with a poor chance of survival. These patients receive supportive treatment compatible with resources, which includes large doses of analgesics, as applicable. Examples are severe head and spinal injuries, widespread burns, or high doses of radiation; this is a temporary category.

T time

TACCS Theater Army Combat Service Support Computer System

TAMMIS Theater Army Medical Management Information System

task organization is a temporary grouping of forces designed to accomplish a particular mission. Task organization involves the allocation or distribution of available forces to a subordinate headquarters by placing these forces either attached, under operational control to, or in direct support of the subordinate headquarters. Staff planners must distinguish between that support and augmentation which is provided to any or all the division(s), and additional support or augmentation which may be required by the heavy or light division when conducting heavy-light operations. *(* See *also* augmentation.)

TB Med Technical Bulletin (Medical)

TBSA total body surface area

TCU transportable computer unit

TDA table of distribution and allowances

TDY temporary duty

TF task force

TM technical manual

TO theater of operations

TOC tactical operations center

TOE table(s) of organization and equipment

TPFDL Time-Phased Force Deployment List

triage The medical sorting of patients according to the type and seriousness of injury, likelihood of survival, and the establishment of priority for treatment and/or evacuation. Triage ensures that medical resources are used to provide care for the greatest benefit to the largest number. The categories are: *MINIMAL* —those who require limited treatment and can be returned to duty; *IMMEDIATE* —patients requiring immediate care to save life or limb; *DELAYED*— patients who, after EMT, incur little additional risk by delay or further treatment; and *EXPECTANT* —patients who are so critically injured that only complicated and prolonged treatment will improve life expectancy. (For triage categories for nuclear casualties, refer to Tl, T2, T3, and T4.)

TRMT treatment

Trp troop

TRVEH tracked vehicle

TSK transmission security keys

TSOP tactical standing operating procedure

UA urinalysis

UD unit distribution

UMT unit ministry team

unit trains Combat service support personnel and equipment organic to or attached to a force that provides supply, evacuation, and maintenance services. Unit trains, whether or not echeloned, are under unit control and no portion of them is released to the control of a higher headquarters. Trains are normally echeloned into combat and field trains. (*See also* combat trains; field trains.)

US United States

USAF United States Air Force

UW unconventional warfare

VHF very high frequency

WBC white blood cell

WBGT wet bulb globe temperature

WIA wounded in action

Wm William

WVEH wheeled vehicle

REFERENCES

SOURCES USED

These are the sources quoted or paraphrased in this publication.

Joint or Muitiservice Publications

FM 3-3. *Chemical and Biological Contamination Avoidance.* FMFM 11-17. 16 November 1992.
FM 3-4. *NBC Protection.* FMFM 11-9. 29 May 1992.
FM 3-5. *NBC Decontamination.* FMFM 11-10. 23 July 1992.
FM 3-100. *NBC Defense, Chemical Warfare, Smoke, and Flame Operations.* FMFM 11-2. 23 May 1991.
FM 8-9. *NATO Handbook on the Medical Aspects of NBC Defensive Operations* (AMedP-6). NAVMED P-5059; AFP 161-3. 31 August 1973 (Change 1, May 1983).
FM 8-33. *Control of Communicable Diseases in Man.* NAVMED P-5038. 31 May 1991.
FM 8-285. *Treatment of Chemical Agent Casualties and Conventional Military Chemical Injuries.* NAVMED P-5041; AFM 160-12. 28 February 1990.
FM 90-3. *Desert Operations.* FMFM 7-27. 24 August 1993.
Department of Defense. *Emergency War Surgery Handbook.* 1988. (Available through Superintendent of Documents, US Government Printing Office, Washington, DC 20402.)

NATO STANAGs

These agreements are available on request using DD Form 1425 from the Standardization Documents Order Desk, 700 Robins Avenue, Building 4, Section D, Philadelphia, Pennsylvania 19111-5094.

2027. *Marking of Military Vehicles.* 18 December 1975 (Latest Amendment, 25 April 1991).
2087. *Medical Employment of Air Transport in the Forward Area.*29 June 1983 (Latest Amendment, 30 April 1990).
2132. *Documentation Relative to Medical Evacuation, Treatment, and Cause of Death of Patients.* 7 August 1974 (Latest Amendment, 15 September 1986).
2174. *Military Routes and Route /Road Networks.* 10 August 1978 (Latest Amendment, 31 August 1989).
2931. *Orders for the Camouflage of the Red Cross and Red Crescent on Land in Tactical Operations.* 18 October 1984 (Latest Amendment, 11 June 1991).
3204. *Aeromedical Evacuation.* 26 September 1973 (Latest Amendment, 1 October 1991).

ABCA QSTAGs

These agreements are available on request using DD Form 1425 from the Standardization Documents Order Desk, 700 Robins Avenue, Building 4, Section D, Philadelphia, Pennsylvania 19111-5094

470. *Documentation Relative to Medical Evacuation, Treatment, and Cause of Death of Patients.* 23 February 1979 (Latest Amendment, 10 April 1988).

512. *Marking of Military Vehicles.* 31 January 1979 (Latest Amendment, 9 October 1980).
529. *Medical Employment of Air Transport in the Forward Area.* 24 March 1980.

Air Standards

These agreements are available on request using DD Form 1425 from the Standardization Documents Order Desk, 700 Robins Avenue, Building 4, Section D, Philadelphia, Pennsylvania 19111-5094.

44/36A. *Aeromedical Evacuation by Helicopter.* 2 October 1978.
61/71. *Selection, Priorities, and Classes of Conditions for Aeromedical Evacuation.* 10 May 1989.

Army Publications

AR 40-5. *Preventive Medicine.* 15 October 1990.
AR 40-61. *Medical Logistics Policies and Procedures.* 30 April 1986 (Change 1, 1 August 1989).
AR 40-66. *Medical Record Administration.* 1 June 1992.
AR 40-202. *Assignment and Utilization of Army Medical Department Personnel.* 10 October 1977.
AR 40-226. *Annual Historical Report-AMEDD Activities.* 18 September 1973.
AR 40-400. *Patient Administration.* 1 October 1983.
AR 220-10. *Preparation for Oversea Movement of Units (POM).* 15 June 1973.
AR 335-15. *Management Information Control System.* 15 December 1982 (Change 1, 28 October 1986).
AR 570-2. *Manpower Requirements Criteria.* 15 May 1992.
AR 700-Series. *Logistics.*
AR 750-1. *Army Materiel Maintenance Policy and Retail Maintenance Operations.* 27 September 1991.
FM 1-202. *Environmental Flight.* 23 February 1983.
FM 1-400. *Aviator's Handbook.* 31 May 1983.
FM 3-7. *NBC Handbook.* 27 September 1990.
FM 3-50. *Smoke Operations.* 4 December 1990.
FM 8-10. *Health Service Support in a Theater of Operations.* 1 March 1991.
FM 8-10-3. *Division Medical Operations Center–Tactics, Techniques, and Procedures.* 1 March 1991.
FM 8-10-4. *Medical Platoon Leaders' Handbook–Tactics, Techniques, and Procedures.* 16 November 1990.
FM 8-10-5. *Brigade and Division Surgeons' Handbook–Tactics, Techniques and Procedures.* 10 June 1991.
FM 8-10-6. *Medical Evacuation in a Theater of Operations–Tactics, Techniques, and Procedures.* 31 *October* 1991.
FM 8-10-7. *Health Service Support in a Nuclear, Biological, and Chemical Environment.* 22 April 1993.
FM 8-10-8. *Medical Intelligence in a Theater of Operations.* 7 July 1989.
FM 8-10-19. *Dental Service Support in a Theater of Operations.* 12 May 1993.
FM 8-10-24. *Area Support Medical Battalion–Tactics, Techniques, and Procedures.* 13 October 1993.

FM 8-42. *Medical Operations in Low Intensity Conflict.* 4 December 1990.
FM 8-50. *Prevention and Medical Management of Laser Injuries.* 8 August 1990.
FM 8-51. *Combat Stress Control in a Theater of Operations–Tactics, Techniques, and Procedures.* 29 September 1994.
FM 8-55. *Planning for Health Service Support.* 9 September 1994.
FM 8-230. *Medical Specialist.* 24 August 1984.
FM 8-250. *Preventive Medicine Specialist.* 27 January 1986 (Change 1, 12 September 1986).
FM 8-505. *Army Medical Field Feeding Operations.* 10 November 1989.
FM 11-32. *Combat Net Radio Operations.* 15 October 1990.
FM 11-37. *MSE Primer for Small-Unit Leaders.* 14 November 1990.
FM 19-4. *Military Police Battlefield Circulation Control, Area Security, and Enemy Prisoner of War Operation.* 7 May 1993.
FM 21-10. *Field Hygiene and Sanitation.* 22 November 1988.
FM 21-10-1. *Unit Field Sanitation Team.* 11 October 1989.
FM 22-51. *Leader's Manual for Combat Stress Control.* 29 September 1994.
FM 24-Series. *Communications Techniques.*
FM 24-18. *Tactical Single-Channel Radio Communications Techniques.* 30 September 1987.
FM 24-19. *Radio Operator's Handbook.* 24 May 1991.
FM 24-35. *Signal Operating Instructions, "The SOI".* 26 October 1990.
FM 27-10. *Law of Land Warfare.* 18 July 1956 (Change 1, July 1976).
FM 31-70. *Basic Cold Weather Manual.* 12 April 1968 (Change 1, 17 December 1968.)
FM 55-30. *Army Motor Transport Units and Operations.* 14 March 1980 (Change 3, 19 October 1989).
FM 63-2-1. *Division Support Command–Light Infantry, Airborne, and Air Assault Divisions.* 16 November 1992.
FM 71-100. *Division Operations.* 16 June 1990.
FM 71-100-2. *Infantry Division Operations–Tactics, Techniques, and Procedures.* 31 August *1993.*
FM 90-5 (HTF). *Jungle Operations (How to Fight).* 16 August 1982.
FM 90-6. *Mountain Operations.* 30 June 1980.
FM 100-5. *Operations.* 14 June 1993.
FM 101-5. *Staff Organization and Operations.* 25 May 1984.
FM 101-5-1. *Operational Terms and Symbols.* 21 October 1985.
FM 101-10-1/1. *Staff Officer's Field Manual–Organizational, Technical, Logistical Data (Volume 1).* 7 October 1987.
FM 101-10-1/2. *Staff Officers' Field Manual–Organizational, Technical, Logistical Data Planning Factors (Volume 2).* 7 October 1987 (Change 1, July 1990).
TB Med 577. *Occupational and Environmental Health: Sanitary Control and Surveillance of Field Water Supplies.* 7 March 1986.
SB 710- 1-1. *Standard Study Numbering System and Replacement Factors.* 1 April 1993.
CMH Pub 20-5. *The Medic's War.* 1987.

DOCUMENTS NEEDED

These documents must be available to the intended users of this publication.

DA Form 1156. *Casualty Feeder Report.* June 1966.

DA Form 1594. *Daily Staff Journal or Duty Officer's Log.* November 1962.
DA Form 2028. *Recommended Changes to Publications and Blank Forms.* February 1974.
DA Form 2789-R. *Medical Summary Report–Section I (LRA).* March 1983.
DA Form 2789-l-R. *Medical Summary Report–Section* II *(LRA).* March 1983.
DA Form 2789-2-R. *Medical Summary Report–Section* III *(LRA).* March 1983.
DA Form 3444. *Terminal Digit File for Treatment Record (Orange).* January 1979.
DA Form 8005. *Outpatient Medical Record (OMR).* November 1991.
DA Form 8007. *Individual Medical History.* November 1991.
DD Form 1380. *US Field Medical Card.* May 1989.
DD Form 1425. *Specifications and Standards Requisition.* March 1986.
SF 558. *Emergency Care and Treatment.* June 1982.
SF 600. *Health Record-Chronological Record of Medical Care.* May 1984.
SF 603. *Health Record–Dental.* October 1975.

READING RECOMMENDED

These readings contain relevant supplemental information.

Army Publications

FM 11-30. *MSE Communications in the Corps/Division.* 27 February 1991.
FM 11-50. *Combat Communications Within the Division (Heavy and Light).* 4 April 1991.
FM 24-12. *Communications in a "Comes-As-You-Are" War.* 17 July 1990.

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References are to paragraph numbers unless otherwise indicated.

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GORDON R. SULLIVAN
General, United States Army
Chief of Staff

Official:

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Administrative Assistant to the
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