

CHAPTER 4

THE MEDICAL EVACUATION SYSTEM

4-1. General

a. The current medical evacuation doctrine and organizations are the result of an evolutionary process. This process includes both trial and error and the assimilation of lessons learned on the battlefield.

b. Medical evacuation encompasses—

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

c. The increase in the speed and lethality of combat formations has served to increase the importance of medical evacuation as the key link in the continuum of care. The air and ground evacuation assets currently used to perform battlefield evacuation have both strengths and limitations. To be effective they must be employed in a synchronized system, each complementing the capabilities of the other.

This paragraph implements STANAG 3204 and Air STD 44/36A.

d. The initial decision of treatment level required is made by the treatment element (squad, team, or treatment platoon). Soldiers are evacuated by the most expeditious means of evacuation dependent on their medical condition and assigned evacuation precedence.

- Priority I, URGENT.
- Priority IA, URGENT-SURG.
- Priority II, PRIORITY.
- Priority III, ROUTINE.

- PRIORITY IV, CONVENIENCE.

(A detailed discussion on evacuation priorities is provided in Chapter 7.)

(1) The medical evacuation battalion maximizes the effectiveness of corps ground and air ambulance resources. This unit exercises command and control over assigned and attached ground or air evacuation companies and detachments. It also provides the required evacuation out of division areas, between hospitals in the corps and echelons above corps (EAC), and from ASMBs in the corps and EAC. The medical evacuation battalion provides the flexibility and capability for task organizing to support close, deep, and rear operations. It can be modified to support all aspects of the operational continuum. The ASMB ambulance platoon and the ambulance squad in the division medical company provide evacuation within their assigned AO. To ensure that patients are evacuated to the appropriate treatment elements, MROs are organic to the medical group and medical brigade.

(2) A matrix of evacuation patient flow and medical regulating is provided in Table 4-1. The overriding consideration as to the evacuation platform and destination facility is the patient's medical condition. The air ambulance operates wherever needed on the battlefield, dependent on risk and METT-T factors. The crew of the air ambulance, assisted by on-board patient monitoring and diagnostic equipment, is trained in aeromedical procedures to provide optimum en route patient care. It is the platform of choice for most categories of patients. However, insufficient numbers of air ambulances are available to evacuate all patients expected in a corps. To conserve these valuable resources, medical planners should only use air ambulances to move Priority 1, URGENT and Priority IA, URGENT-SURG patients with other categories on a space available basis only.

e. On the integrated battlefield, a significant number of evacuation assets will be destroyed. While of major concern, this does not mean that evacuation cannot be accomplished from tactical formations. Commanders must employ their available evacuation resources to accomplish the mission while maximizing survivability. The enemy's ability to fire on exposed elements may be

inhibited by the clever use of cover, concealment, and available defilade. We must minimize our vulnerabilities while exploiting those of the enemy.

We must be as well trained and knowledgeable of US, allied, and threat forces capabilities and operational doctrine as possible.

Table 4-1. Evacuation Patient Flow

EVACUATED FROM/TO	EVACUATION MEANS	RESPONSIBILITY	REGULATED BY
Point of injury/patient collecting point to BAS	Litter/Ground Ambulance	Maneuver Battalion Medical Platoon	BN Surgeon or PA
BAS to Medical Company	Ground/Air	Medical Company	Med Co Cdr
Med Co to Med Co	Ground/Air	Medical Company	DMOC
Med Co to MASH* (in Division Rear)	Air (Preferred)	Air Amb Co (DS)	DMOC
Medical Company to CSH/FLD	Ground/Air	Evacuation Battalion	DMOC and Group MRO
CSH to/from FLD	Ground/Air	Evacuation Battalion	GRP/BDE MRO
Area Spt Med Bn to CSH/FLD	Ground/Air	Evacuation Battalion	GRP/BDE MRO
CSH to GH	Air	Evacuation Battalion/USAF	GRP/BDE MRO, JMRO, or MEDCOM MRO
FLD to GH	Ground/Air	Evacuation Battalion	MEDCOM MRO
Area Spt Med Bn to GH	Air/Ground	Evacuation Battalion	BDE/MEDCOM MRO
GH to CONUS	Air/Surface	USAF/USN	BDE MRO/ASMRO

*Once stabilized, patient is MEDEVAC by air for definitive treatment.

NOTE: If available, wartime host nation transportation assets (rail ambulances, buses, aircraft, watercraft) may be used to evacuate patients from corps to corps, or corps to COMMZ.

f. In LIC, the force composition and availability of evacuation resources will be determined by the mission, the anticipated duration of the operation, and the potential for violence. For a discussion of medical operations in LIC, refer to FM 8-42.

4-2. Medical Evacuation

An efficient medical evacuation system—

- Minimizes mortality by rapidly and efficiently moving the sick, injured, and wounded to an MTF.

- Clears the battlefield enabling the tactical commander to continue his mission.

- Builds the morale of the soldiers by demonstrating that care is quickly available if they are wounded.

- Provides en route medical care which is essential for optimum success.

a. Evacuation is performed by the higher echelon of medical care going forward and evacuating from the lower level.

b. Evacuation assets must have equal or greater mobility as the troops supported.

c. The HSS commander responsible for the medical evacuation mission is the primary manager of the medical evacuation assets. A single, dedicated medical command authority must manage all evacuation assets. The medical manager ensures that the optimum evacuation mode is used based upon—

- Patient's medical condition.
- Availability of resources.
- Destination MTF.
- Tactical situation.

d. The evacuation of patients in nonmedical ground and air assets must be considered in mass casualty situations. Nonmedical assets will be augmented, whenever possible, with medical personnel to provide en route medical care. With prior coordination, augmentation medical personnel may be obtained from within the division medical company or the ASMB. When augmentation of medical personnel is not possible, the transportation of casualties can still be accomplished using nonmedical vehicles and aircraft. The planning for this requirement is the responsibility of the DMOC or battalion S3.

e. Routinely bypassing levels of care is detrimental to the wounded soldier and the HSS system. Bypassing levels of care—

- Negates the effectiveness of medical resources.

- Risks further injury to the patient,

- Causes overevacuation of less critically injured soldiers; thereby, resulting in a delay of potential RTD soldiers.

- Removes the evacuation asset from its supporting position for longer periods of time.

4-3. Basic Considerations in Medical Evacuation Operations

a. *General.* As METT-T factors affect the employment of all units, the medical evacuation commander must consider the basic tenets which influence the employment of medical evacuation assets. These factors include—

- Tactical commander's plan for employment of combat forces.

- Anticipated patient load.

- Expected areas of patient density.

- Patient condition.

- Availability of medical evacuation resources.

- Availability of location and type of MTFs.

- Protection afforded medical personnel, patients, and medical units, vehicles, and aircraft under the provisions of the Geneva Conventions.

- Army airspace command and control plan.

- Engineer barrier plans.

- Road network.

- Weather conditions.

b. *Patient Acquisition.* Units with organic medical evacuation assets have the primary responsibility for patient acquisition. Methods of employ-

ment and evacuation techniques differ depending upon the nature of the operation.

c. Medical Platoon, Treatment Squad Forward.

(1) The medical platoon leader (a physician) should be included in all battalion tactical planning. He must keep himself knowledgeable of the concept of operations, commander's intent, and the anticipated HSS requirements. He develops his HSS plan (FM 8-55) and provides HSS overlays with preplanned evacuation routes, patient collecting points, and AXP's to the ambulance squads or

teams (Figure 4-1) for inclusion in the battalion OPLAN. He also provides strip maps to the ambulance drivers, if needed. He requests augmentation support from the supporting medical company in advance of the operation, if required. When elements of a maneuver battalion are attached to a task force, the medical platoon leader ensures that adequate medical elements are included in the support package. He further ensures that orientation and support are provided for his medical personnel. This precludes taxing the medical elements of the receiving unit. These responsibilities are normally delegated to the medical operations officer (field medical assistant).

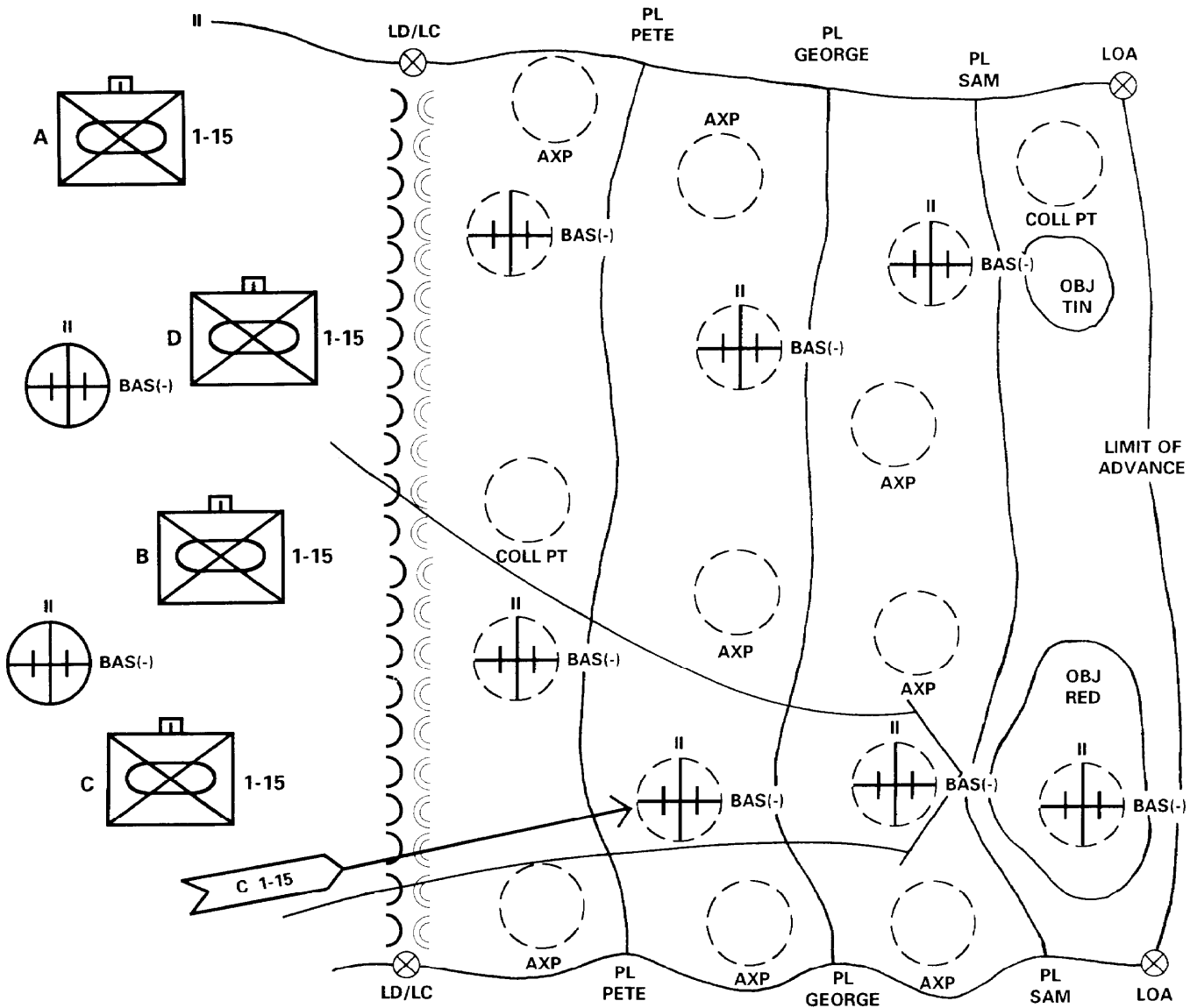


Figure 4-1. Typical evacuation overlay.

(2) The ambulance section NCO must have a working knowledge of the terrain features in the AO. Whenever possible, he familiarizes himself with primary and secondary medical evacuation routes through route reconnaissance. This NCO manages the employment of the ambulance teams and monitors the communications net to remain abreast of the tactical situation.

(3) The following factors should be considered when selecting ambulance routes:

- Tactical mission.
- Coordinating evacuation plans and operations with the unit movement officer.
- Availability of routes.
- Physical characteristics of roads and cross-country routes.
- Traffic density.
- Time and distance factors.
- Proximity of possible routes to areas that may be subject to enemy fire.
- Lines of patient drift.
- Cover, concealment, and available defilade for moving and stationary vehicles.
- Engineer barrier plans.

(4) Depending upon the combat situation, the modes of evacuation may include walking wounded, manual and litter carries, and medical evacuation or nonmedical transportation assets. Evacuation in the battalion area normally depends on the organic ambulances assigned. Evacuation by air ambulance is dependent upon the availability of air assets, patient's medical condition, tactical situation, air superiority, and weather.

(a) The ambulance team or squad routinely deploys with the company trains (forward trains). It operates, however, as far forward as the tactical situation permits. This team, when operating in a maneuver company AO, is normally under

the tactical control of the maneuver company executive officer or first sergeant. The team, however, remains under the technical and operational control (OPCON) of the medical platoon.

(b) The medical operations officer ensures that the ambulances are located close to the anticipated patient load. An ambulance team consists of one ambulance and two medical specialists. One or two of these teams serve in direct support of a maneuver company. To become familiar with the specific terrain and battlefield situation, the team maintains contact with the company during most combat operations. The remaining ambulance assets are positioned strategically throughout the battalion area or are sited at the BAS to—

- Evacuate patients from the company aid posts, patient collecting points, or AXPs to the BAS.
- Reinforce the forward teams.
- Support the combat forces held in reserve.

(c) Another employment option is to forward site the additional ambulance teams at company aid posts or patient collecting points, as well as at the BASs.

(d) Many times the ambulance team finds battlefield casualties who have not been seen by a combat medic. In these cases, the team members dismount and leave their vehicle, and find, treat, and evacuate the patient.

(e) Ambulance teams not specifically dedicated to support combat elements can be used as messengers in medical channels and to transport medical personnel, equipment, and supplies.

(5) During static situations where the maneuver company is not in enemy contact or is in reserve, the ambulance team returns to the BAS to serve as reinforcement to other elements in contact. However, during movement to contact, the ambulance team immediately deploys with its supported unit. In moving patients back to the collecting point, the team may be assisted by nonmedical

personnel. Specific duties of the ambulance team are to—

- Maintain contact with supported elements.
- Find and collect the wounded.
- Administer EMT.
- Initiate or complete the FMC.
- Evacuate patients to the BAS.
- Direct or guide ambulatory patients to the BAS.
- Resupply combat medics.
- Serve as messengers in medical channels.

(6) During offensive operations, patient collecting points may be used to avoid hampering the movement of the maneuver elements. In fast-moving situations, preplanned patient collecting points are included in the HSS plan and activated based on the crossing of phase lines or upon the occurrence of predetermined events. It may be necessary to set up multiple patient collecting points for each phase of the operation. Rotating the use of these points precludes the enemy from using them to pinpoint maneuver elements or from attracting enemy fires. When the situation permits, patient evacuation from collecting points or AXPs may be accomplished by air ambulances.

(7) Ambulance teams move using available terrain features for cover and concealment. They avoid prominent terrain features and likely targets. When stationary, the ambulance crew should conceal the vehicle as much as possible.

(8) When a casualty occurs in a tank or a Bradley infantry fighting vehicle (BIFV), the ambulance team moves as close to the armored vehicle as possible. Assisted by the armored crew, if possible, the casualty is extracted from the vehicle and then administered EMT. The ambulance team moves the patient to the BAS, or to a patient collecting point to await further evacuation. The combat medic normally remains with the company

combat trains, but may be used anywhere in the company area, even assisting the ambulance teams in some situations. He may be used to direct ambulance teams to locations where vehicle crews need assistance, or where injured or wounded crew members have been left. In some situations, crew members may have to rely on self-aid or buddy aid until the combat lifesaver or the combat medic arrives.

(9) Medical evacuation on an area basis is required at all levels in the HSS system. Divisional units, without organic evacuation resources such as combat engineers, will require evacuation support on an area basis. To ensure that these elements receive adequate HSS, the medical planner must include their requirements into the OPLAN. Prior coordination is essential to ensure that the locations of patient collecting points, AXPs, and BASs are disseminated to these elements and that any unique support requirements are included.

d. Medical Platoon Treatment Squad or Team to Forward Support Medical Company.

(1) Evacuation from the treatment squad or team is normally provided by the FSMC ambulance platoon and the forward air ambulance team of the direct support air ambulance company. Further, these ambulance assets provide evacuation support on an area basis to other units in the brigade AO.

(2) The elements of the ambulance platoon are normally collocated with the FSMC treatment platoon for mutual support. They establish contact and locate one ambulance team with the medical platoon of each maneuver battalion. The remaining ambulances are used for brigade task force operations and area support. The ambulances are pre-positioned at AXPs or patient collecting points, or are field-sited at the FSMC.

(3) An air ambulance team of the corps air ambulance company is normally forward deployed to the BSA and collocated with the FSB headquarters, or FSMC (Table 4-2). The team may be attached in direct support, or under the OPCON of the FSMC or the FSB headquarters. The OPCON relationship provides authority to the FSMC to direct the integrated air and ground evacuation

system. Administrative and logistics responsibilities, along with discipline, internal organization, and training, remain the responsibility of the parent unit. The section leader of the forward MEDEVAC team must be included in the brigade tactical planning process. His involvement ensures the effective employment of the air evacuation assets and assists him in obtaining essential A²C² information. Coordination for aviation support requirements and A²C² matters is accomplished with the maneuver brigade S3 (air). The air ambulance team evacuates Priority I, URGENT patients from as far forward as possible to the BAS or FSMC. Further, when a MASH is deployed in the division rear area, air ambulances may evacuate Priority IA, URGENT-SURG to this corps facility. Medical regulating to the MASH is accomplished informally by either the DMOC or division medical battalion. External lift capabilities of aeromedical evacuation helicopters adds an important dimension to its role on the battlefield. It provides the FSMC commander flexibility and agility in the movement of treatment teams and equipment to the forward battle area. It also provide the capability to rapidly resupply Class VIII supplies to combat units.

(a) Corps air evacuation elements may operate from the DSA and BSAs providing around-the-clock, immediate response, evacuation aircraft. To accomplish this, elements must maintain a close tie with the division A²C² system. The A²C² element provides an airspace plan through the division operations order (OPORD)/OPLAN A²C² annex. The DMOC provides the necessary planning information to the division A²C² element for all division and corps aeromedical evacuation units operating within the division area. This information includes, but is not limited to the following:

- The air ambulance units operating in the area and the number of aircraft in each unit.

- The location of medical aviation and HSS units.

- The forward area refueling equipment (FARE) and helipad locations.

- Any liaison requirements which medical units may have.

- Recommended evacuation air corridors in the division.

(b) Air evacuation flight crews execute A²C² plans through the division air traffic service (ATS) element. The ATS element is normally located behind the brigade rear boundaries. Air evacuation elements operating forward of the BSA will execute the A²C² plan through the brigade S3. The FSB support operations can provide planning and coordination between air ambulance elements in the BSA and the maneuver brigade S3. Since the support operations section is not staffed for this mission, the forward support flight teams should plan to provide the FSB support operations cell with a flight operation specialist to assist in A²C² planning and coordination. Forward support flight teams, through the FSB support operations, provide the necessary information to the maneuver brigade S3. It should include, but not be limited to the following:

- Location of MTFs and AXP's.

- Number and location of aircraft in the team.

- Location of the FAREs.

- Liaison requirements.

- Recommended evacuation air corridors.

Table 4-2. Tactical Missions and Command Relationships for Air Ambulance Elements

TACTICAL MISSION RELATIONSHIPS						
An air ambulance unit with a tactical mission	Receives missions and tasks from—	Is under command and control of—	Establishes liaison with—	Is task organized by—	Receives combat service support through—	Can be given further status/tactical mission of—
General support (GS)	Ground unit supported with priorities assigned by ground unit receiving GS	Evacuation battalion commander	As directed by HQ receiving GS	Air ambulance unit commander	Normal CSS channels	NA
Direct support (DS)	Ground unit supported	Evacuation battalion commander	Unit being supported	Air ambulance unit commander	Normal CSS channels	NA
COMMAND RELATIONSHIPS						
OPCON	Unit to which OPCON	Unit commander to which OPCON	As directed by HQ exercising OPCON	Unit commander to which OPCON	Normal CSS channels	OPCON DS GS
Attachment	Unit to which attached	Unit commander to which attached	As directed by HQ to which attached	Unit commander to which attached	Unit to which attached, unless otherwise stated in attachment order	Attachment OPCON DS GS

(c) The brigade S3 provides his A²C² plan which includes the air corridors, air control points, and communications check points, back to the division A²C² element for approval. Once approved, it is provided to the FSB support operations for implementation (Figure 4-2). The

forward flight teams, prior to each mission, select the corridors, plan and execute missions and flight, and follow through the maneuver brigade S3 when necessary. The brigade S3 updates the A²C² information as the tactical situation changes.

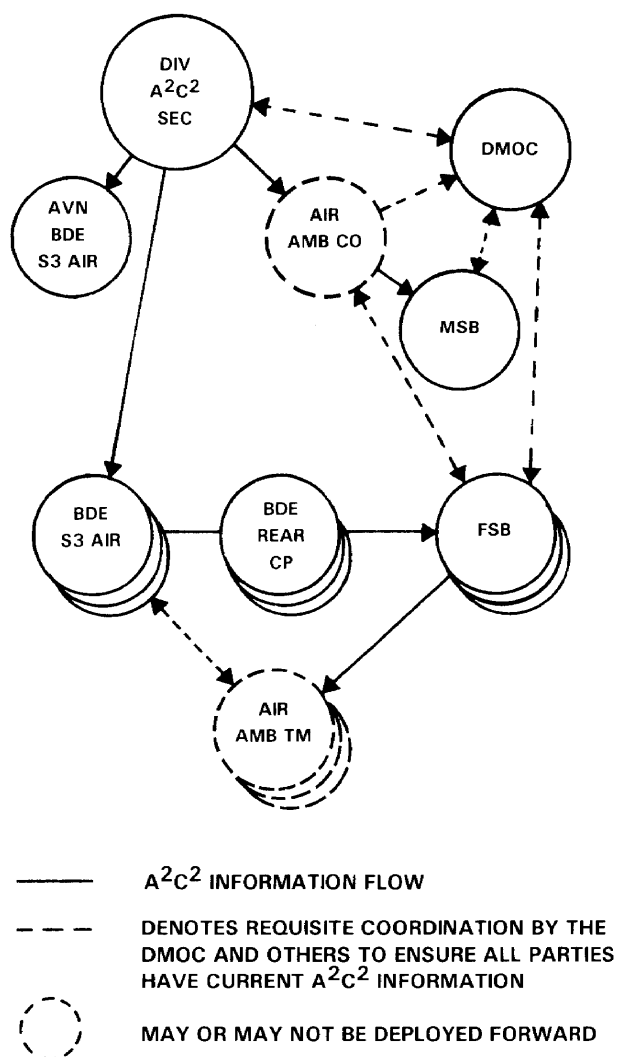


Figure 4-2. Medical A²C² information flow.

(4) In the FSMC, the executive officer is the principal assistant to the commander for the tactical employment of the company assets. He should be included in all brigade tactical planning. He needs to be prepared to reinforce or reconstitute forward HSS elements and to request augmentation from the medical battalion or DMOC, if required. The air ambulance MEDEVAC team leader keeps the FSMC executive officer apprised of his operational capability. This enables the executive officer to effect timely reinforcement or augmentation. The FSMC executive officer must be familiar with the specific terrain and battlefield situation. Further, he should have a thorough understanding of the division and brigade commanders ground tactical plan.

e. Forward Support Medical Company to the Medical Company in the Division Support Area.

(1) In Vietnam, with the virtually unrestricted availability of aeromedical evacuation, it became a common practice to overfly levels of HSS. Patients were evacuated directly to a corps level hospital. A return to a more systematic approach to patient evacuation is dictated by the—

- Potentially greater distances involved.
- Necessity for the integration into the various levels of A²C².
- Threat.

(2) Evacuation from the FSMC is normally provided by ground and air assets from the corps medical evacuation battalion. The ambulance platoon of the DSA medical company does not possess sufficient assets to move the anticipated number of patients from the FSMCs. It usually moves only those patients who will RTD within 72 hours. These RTD patients are held in the MSMC holding squad.

(3) The MSMC ambulance platoon normally collocates with the treatment platoon for mutual support and area taskings. It performs ground evacuation and en route patient care for supported units in the division rear. It may also evacuate patients from the FSMC in the BSA as necessary. The ambulance platoon is mobile in operations as its assets may be totally deployed at one time. The platoon normally forward stations a portion of its teams in support of those units in the division rear. The remaining teams are used for task force operations, reinforcing support, or ambulance shuttles. Platoons or squads from the corps ground ambulance company will be in direct support, or OPCON to, and collocated with the medical company in the DSA or BSA. These assets evacuate patients from the forward medical treating elements.

(4) A corps air ambulance company designated to support a division may be deployed as OPCON, attached, or in direct support of the division. For aeromedical evacuation when OPCON

or attached, the air ambulance company is normally under the control of the DISCOM. The air ambulance company collocates with the DSA medical company and forward deploys air ambulance teams or crews to the FSMCs. Air ambulance teams deployed to the FSMC will have the minimum number of aircraft required to accomplish the mission. The remaining aircraft are located with the company headquarters for reinforcement of the FSMC and evacuation of patients to the medical company in the DSA or to corps hospitals.

f. Evacuation from Division Support Area Medical Company to Levels III and IV Hospitals.

(1) The mission of the hospital system is two-fold. First, it is designed to maximize the RTD of patients. Secondly, it provides the necessary treatment to stabilize, for evacuation, those patients who are not expected to RTD within the limits of the theater evacuation policy.

(2) Hospitalization in the theater is provided at Levels III and IV of the HSS system.

(a) The MASH normally located in the division rear provides lifesaving surgical intervention. Patients are further stabilized and evacuated to other Levels III and IV hospitals.

(b) Forward-oriented combat support hospitals (CSHs) are capable of treating all classes of patients; however, their primary mission is that of providing—

- Resuscitative surgery and trauma treatment.
- Returning patients to duty within prescribed CZ policies.

(c) Field hospitals (FLDs) are designed to focus on RTD patients and specialize in reconditioning and rehabilitation. These hospitals may be located in either the corps or EAC.

(d) General hospitals (GHs) are oriented toward the trauma patient but have sufficient balance to fulfill their area support role for all classes of patients. They are normally located in the COMMZ.

(3) Elements of the medical evacuation battalion are also tasked with corps interhospital transfer responsibilities and the movement of patients to United States Air Force (USAF) MASFs. Corps area ground evacuation support is provided by the ASMB with its organic ambulance assets. This allows the medical evacuation battalion to focus its entire ground effort forward on the supported divisions and the movement of patients between corps hospitals.

(4) The organic ground evacuation assets of the DSA medical company provide evacuation support on an area basis.

4-4. Property Exchange

a. Whenever a patient is evacuated from one MTF to another or is transferred from one ambulance to another, medical items of equipment (casualty evacuation bags [cold weather-type bags], blankets, litters, and splints) remain with the patient. To prevent rapid and unnecessary depletion of supplies and equipment, the receiving Army agency exchanges like property with the transferring agency. This reciprocal procedure will be practiced to the fullest extent possible through all phases of evacuation from the most forward element through the most rearward hospital.

This paragraph implements STANAG 2128.

b. Medical property accompanying patients of allied nations will be returned to the allied nation at once, if possible. If it is not possible, like items will be exchanged as in paragraph a above.

c. There is limited equipment available at a MASF. There is no property exchange of equipment with the USAF.

4-5. Overview of Medical Evacuation Support of Offensive Operations

a. The offense is the decisive form of war, the commander's only means of attaining a positive goal or of completely destroying an enemy force (FM 100-5). The offense is characterized by rapid movement, deep penetrations, aggressive action,

and the ability to sustain momentum regardless of counterfires and countermeasures.

b. When considering the evacuation plans to support an offensive action, the HSS planner must consider many factors (FM 8-55). The forms of maneuver, as well as the enemy's capabilities, influence the character of the patient work load and its time and space distribution. The analysis of this work load determines the allocation of medical resources and the location or relocation of MTFs.

c. Evacuation support of offensive operations must be responsive to several essential characteristics. As operations achieve success, the areas of casualty density move away from the support facilities. This causes the routes of medical evacuation to lengthen. Heaviest patient loads occur during disruption of enemy main defenses, at terrain or tactical barriers, during the assault on final objectives, and during enemy counterattacks. The accurate prediction of these work-load points by the HSS planner is essential if medical evacuation operations are to be successful.

d. The major casualty area of the division is normally the zone of the main attack. As the main attack accomplishes the primary task of the division, it receives first priority in the allocation of combat power. The allocation of combat forces dictates roughly the areas which are likely to have the greatest casualty density. As a general rule, all division MTFs are located initially as far forward as combat operations permit. This allows the maximum use of these facilities before lengthening evacuation lines force their displacement forward.

e. As advancing combat formations extend control of the battle area forward, supporting medical elements overtake patients. This facilitates the acquisition of the battle wounded and reduces the vital time elapsed between wounding and treatment. In offensive operations, two basic problems confront the supporting evacuation units. First, contact with the supported unit must be maintained. Responsibility for the contact follows the normal HSS pattern—rear to front. The contact is maintained by forward deployed air and ground evacuation resources. Secondly, the mobility of the MTFs supporting the combat formations must be maintained. Periodically, division medical companies, MASHs, and CSHs are cleared so that

they may move forward. This requirement for prompt evacuation of patients from forward MTFs requires available ambulances to be echeloned well forward from the outset. The requirement for periodic movement of large numbers of patients from divisional and corps facilities further stresses the evacuation system.

f. It is essential that the evacuation plan for all combat operations be well conceived, planned, coordinated, and disseminated. In designing the medical plan, the HSS planner uses of the following tools:

(1) *Patient collecting points.* In fast-moving situations, patient collecting points normally are predesignated along the axis of advance or evacuation routes. Forward of the BAS, combat medics, combat lifesavers, and combat troops take casualties to the patient collecting points. These points facilitate acquisition by supporting ambulance teams and reduce evacuation time. When used by the BAS, patient collecting points help preserve BAS mobility, preclude carrying casualties forward, and reduce evacuation time to the rear. Patient collecting points designated by the division level of HSS concentrate patients along evacuation routes, increasing the efficiency of each ambulance mission to the treatment station. They also provide those units lacking organic medical support with a forward area for patient disposition. When designating a patient collecting point, the designating authority makes a decision whether or not to provide medical staff at the location. This decision is based upon the assessment of risk versus the availability of personnel. Normally, the level of HSS designating the point is responsible for staffing. Medical personnel may not be available to staff these points, and ambulatory patients may be required to perform self-aid or buddy aid. Patient collecting points should be identified on operational overlays (Figure 4-1).

(2) *Ambulance exchange points.* A position where patients are exchanged from one evacuation platform to another is designated as an AXP.

(a) These points are normally pre-planned and are a part of the HSS annex to the OPLAN. In the forward area, the threat of enemy ground activities, large concentrations of lethal weapons systems, and effective use of anti-aircraft

weapons may dictate that the AXP be a predetermined rendezvous point for the rapid transfer of patients from one evacuation platform to another. The location of AXPs should be frequently changed to preclude attracting enemy fires.

(b) Ambulance exchange points are established for many different reasons. For example, the ambulance platoon of the heavy division medical companies now possess a mixture of wheel and track ambulances. The track vehicles are provided so that they may keep up with maneuver elements. These vehicles carry the patients from the BAS to an AXP where the divisional wheel ambulances take over for the relatively longer trip to the rear. Ambulance exchange points are not limited to ground evacuation assets. Another example is a situation where the threat air defense artillery capability is such that air ambulances cannot fly as far forward as the BASs. However, an AXP could be established a few kilometers to the rear, still well forward of the BSA. The divisional track or wheel ambulances could then transfer the patients to the air assets, thereby realizing a significant time savings.

(c) By using AXPs, evacuation assets are returned to their supporting positions faster. This facilitates evacuation as the returning crews are familiar with the road network and the supported units tactical situation. In the case of air evacuation assets, it is important because of the requirements for integration into the A²C² system at each level and the enhancement to survivability provided by current threat and friendly air defense information.

(3) *Ambulance shuttle system (Figure 4-3).* 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.

(a) *Ambulance loading point.* This is a point in the shuttle system where one or more ambulances are stationed ready to receive patients for evacuation.

(b) *Ambulance relay point.* This is a point in the shuttle system where one or more empty ambulances are stationed. They are ready to advance to a loading point or to the next relay post to replace an ambulance that has moved from it. As a control measure, relay points are generally numbered from front to rear.

(c) *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.

(d) *Establishment of the ambulance shuttle.* Once the relay points are designated, the required number of ambulances are stationed at each point. If the tactical situation permits, the ambulances may be delivered to the relay points by convoy.

(e) *Staffing of relay, loading, and ambulance control points.* Important points may be manned to supervise the blanket, litter, and splint exchange (paragraph 4-4) and to ensure that messages and medical supplies to be forwarded are expedited.

(f) *Advantages of the ambulance shuttle system.* This system—

- Places ambulances at patient collecting points and BASs as needed.
- Permits a steady flow of patients through the system to MTFs.
- Avoids unnecessary massing of transport in forward areas.
- Minimizes the danger of damage to ambulances by the enemy.
- Permits the commander or platoon leader to control his element and enables him to extend its activity without advancing the headquarters.

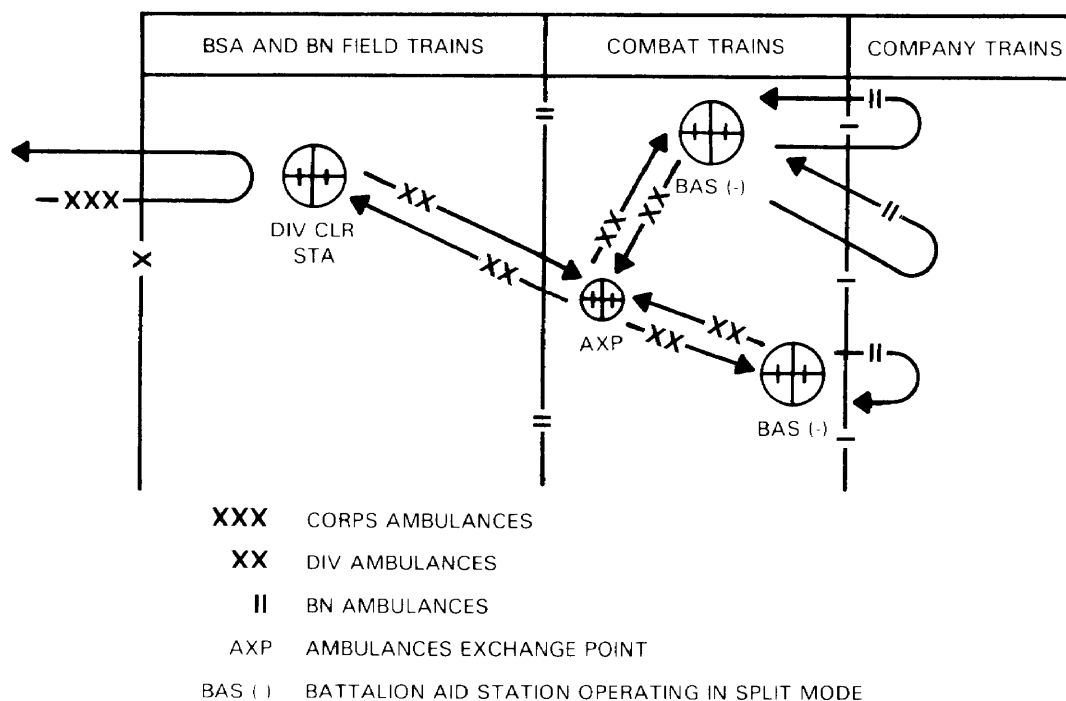


Figure 4-3. Ambulance shuttle system.

- Facilitates administration and maintenance.

- Maximizes the use of small command and control elements (sections or platoons) to operate the ambulance shuttle without employing the entire parent unit.

- Provides for flexible use of other ambulance assets for specific situations.

4-6. Medical Evacuation Support for Specific Offensive Forms of Maneuver and Combat Forces

a. Movement to Contact. Medical evacuation support in movement to contact is keyed to the tactical plan. Prior deployment of evacuation resources with parent and supported units permits uninterrupted and effective evacuation support (Figure 4-4).

b. Covering Forces. These forces are dependent upon organic resources found in the maneuver battalion medical platoon for initial support. The level of command for the covering force (division or corps) determines the responsibility for the subsequent evacuation plan. In a corps covering force, for example, the corps HSS 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 hand off and passage of lines. The use of patient collecting points, AXPs, and nonmedical transportation assets to move the wounded is essential. The covering force battle may be extremely violent. Patient loads will be high and the distance to MTFs may be much longer than usual. The effectiveness of the medical evacuation system depends upon the forward positioning of a number of ground ambulances and the effective integration of corps air ambulances into the evacuation plan.

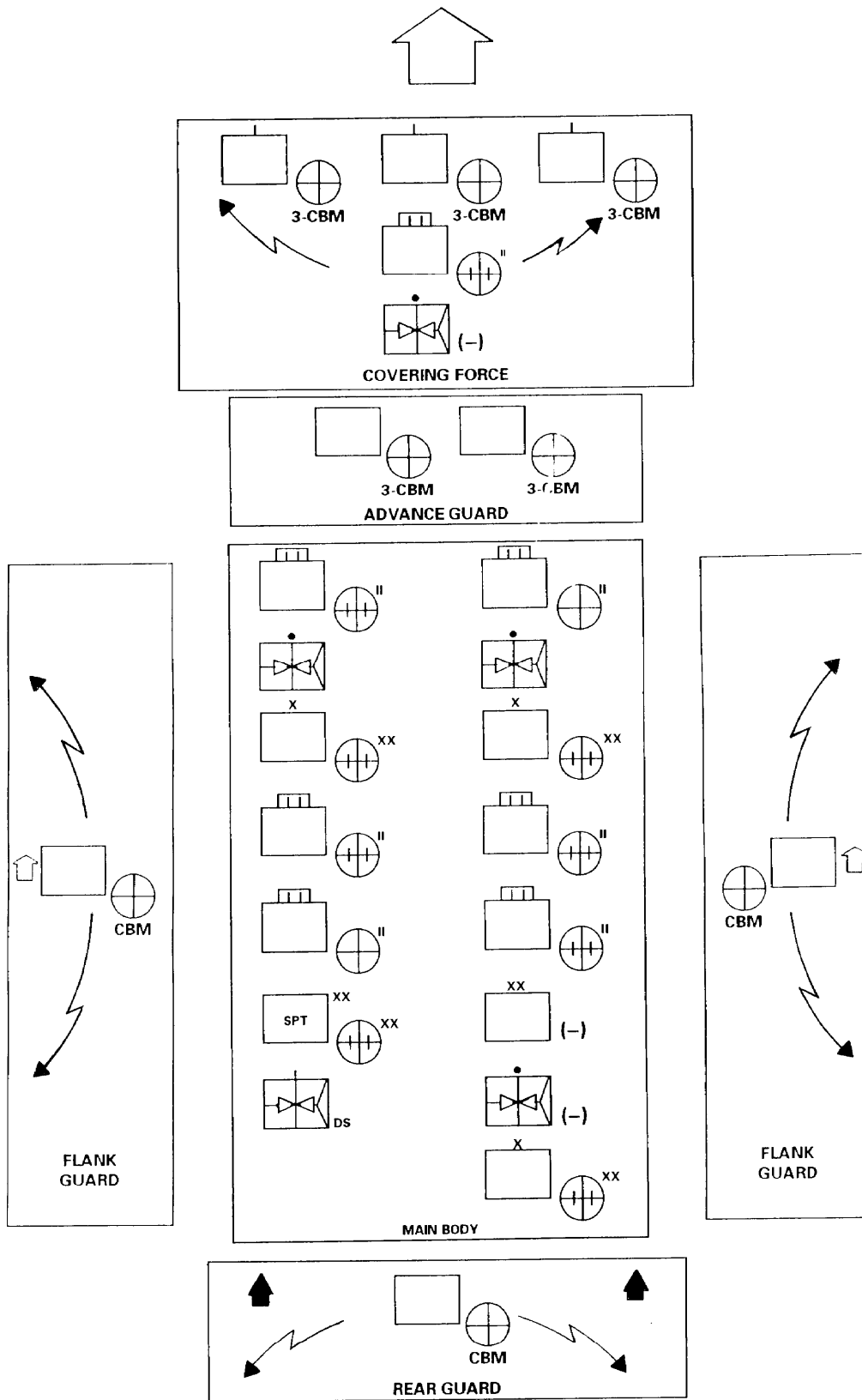


Figure 4-4. Division movement to contact.

c. Advance, Flank and Rear Guards. These forces normally receive medical evacuation support through the attachment of evacuation teams. The teams evacuate patients to predesignated patient collecting points along a main axis of advance or to the nearest treatment element providing area support. Employment of air ambulances provide a measure of agility and flexibility.

d. Passage of Lines. This situation presents a challenge for the HSS planner. There will be a number of medical evacuation units using the same air and road net works. Coordination and synchronization are essential if confusion and overevacuation are to be avoided. The information required to operate in the division AO includes—

- Radio frequencies and call signs.
- Operations plans and standing operating procedures (SOPs).
- Location of MTFs.
- Location of patient collecting points and AXP.
- Main supply route, forward arming and refueling points (FARP), and A²C² data.

e. Penetration. In this tactic, the attack passes through the enemy's principal defensive position, ruptures it, and neutralizes or destroys the enemy forces. Of all forms of offensive maneuver, the penetration of main enemy defenses normally produces the heaviest medical evacuation work load. Patient acquisition starts slowly, but becomes more rapid as the attack progresses. The evacuation routes lengthen as the operation progresses. The penetration maneuver is often preceded by heavy preparatory fires which may evoke heavy return fire. These enemy fires may modify the decision to place evacuation assets as far forward as possible. Patient evacuation may be slow and difficult due to damage to roads or the inaccessibility of patients. Evacuation support problems multiply when some combat units remain near the point of original penetration. This is done to hold or widen the gap in enemy defenses while the bulk of division forces exploit or pursue the enemy. Treatment elements are placed near each shoulder of the penetration; ground evacuation cannot take place across an

avenue of heavy combat traffic. Besides the heavy traffic, the area of the penetration is normally a target for both conventional and NBC weapons.

f. Envelopment. In the envelopment, the main or enveloping attack passes around or over the enemy's principal defensive positions. The purpose is to seize objectives which cut his escape routes and subject him to destruction in place from flank to rear. Since the envelopment maneuver involves no direct breach of the enemy's principal defensive positions, the medical evacuation system is not confronted with a heavy work load in the opening phase. Ambulances are echeloned well forward in all levels of HSS to quickly evacuate the patients generated by suddenly occurring contact. Medical treatment facilities moving with their respective formations overtake patients during evacuation and reduce delays in treatment. After triage and treatment, the patients are evacuated to corps level facilities by accompanying corps assets. When the isolated nature of the envelopment maneuver precludes prompt evacuation, the patients are carried forward with the treatment element. Again, non-medical vehicles may be pressed into emergency use for this purpose. When patients must be carried forward with the enveloping forces, HSS commanders use halts at assembly areas and phase lines to arrange combat protection for ground ambulance convoys through unsecured areas. Further, the commander may take advantage of friendly fires and suppression of enemy air defenses to call for prearranged air ambulance support missions, or emergency use of medium-lift helicopter backhaul capabilities.

g. Exploitation and Pursuit. Evacuation support of exploitation and pursuit maneuvers resemble those discussed for the envelopment. Since exploitation and pursuit operations can rarely be planned in detail, evacuation operations must adhere to SOPs and innovative command and control. These actions are often characterized by—

- Decentralized operations.
- Unsecured ground evacuation routes.
- Exceptionally long distances for evacuation.
- Increased reliance on convoys and air ambulances.

h. Brigade Offensive Operation. A sample overlay of a brigade offensive operation is depicted in Figure 4-5.

4-7. Medical Evacuation Support of Defensive Operations

Support is generally more difficult to provide in defensive operations. The patient load reflects lower casualty rates, but forward area patient acquisition is complicated by enemy actions and the maneuver of combat forces. Medical personnel are permitted much less time to reach the patient, complete vital EMT, and remove him from the battle site. Increased casualties among exposed medical personnel further reduce the medical treatment and evacuation capabilities. Heaviest patient work loads, including those produced by enemy artillery and NBC weapons, may be expected during the preparation or initial phase of the enemy attack and in the counterattack phase. The enemy attack may disrupt ground and air routes and delay evacuation of patients to and from treatment elements. The depth and dispersion of the defense create significant time and distance problems for evacuation assets. Combat elements may be forced to withdraw while carrying their remaining patients to the rear. The enemy exercises the initiative early in the operation which may preclude accurate prediction of initial areas of casualty density. This makes the effective integration of air assets into the evacuation plan essential. The use of air ambulances must not only be integrated into the HSS annex to the OPOD, but also into the A²C² annex. A medical overlay for a defensive operation is depicted in Figure 4-6.

4-8. Medical Evacuation Support of Retrograde Operations

The support requirements for this type of action may vary widely depending upon the factual plan, the enemy reaction, and the METT-T factors. Firm rules that apply equally to all types of retrograde operations are not feasible, but considerations include—

- 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; obstacle and barriers plans should be accomplished.

- Difficulties in controlling and coordinating movements of the force which may produce lucrative targets for the enemy.

- Movements at night or during periods of limited visibility.

- Time and means available to remove patients from the battlefield. In stable situations and in the advance, time is important only as it affects the physical well-being of the wounded. In retrograde operations, time is more important. As available time decreases, medical managers at all levels closely evaluate the capability to collect, treat, and evacuate all patients.

- Medical evacuation routes will also be required for the movement of troops and materiel. This causes patient evacuation in retrograde movements to be more difficult than in any other type of operation. Command, control, and communications may be disrupted by the enemy. Successful medical evacuation requires including ambulances on the priority list for movement; providing for the transportation of the slightly wounded in cargo vehicles; and providing guidance to subordinate commanders defining their responsibilities in collecting and evacuating patients. Special emphasis must be placed on the triage of patients and consideration given to the type of transportation assets available for evacuation.

- When the patient load exceeds the means to move them, the tactical commander must make the decision as to whether patients are to be left behind. The medical staff officer keeps the tactical commander informed in order that he may make a timely decision. Medical personnel and supplies must be left with patients who cannot be evacuated. (Refer to FM 8-10 for additional information.)

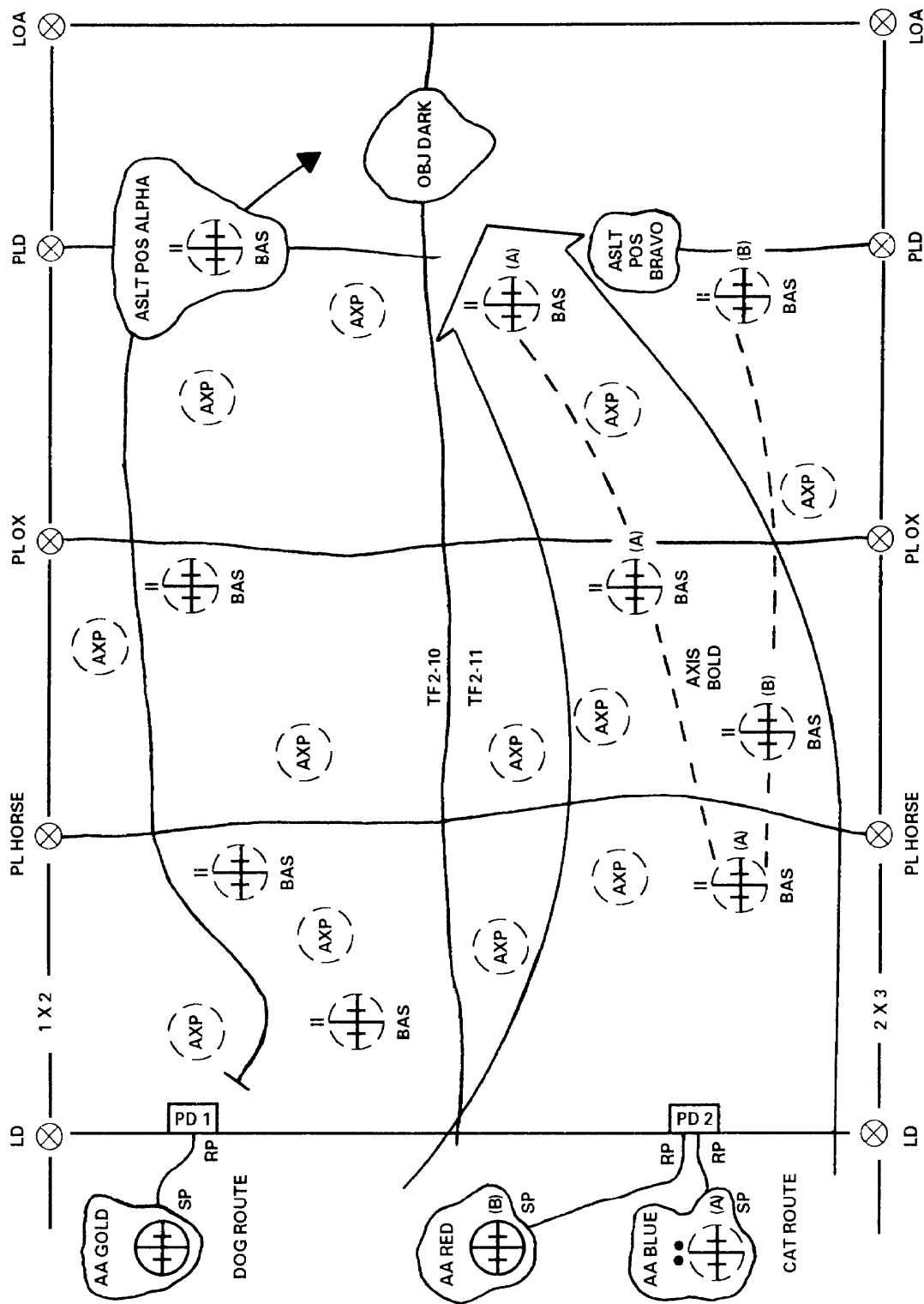


Figure 4-5. Medical overlay to brigade attack.

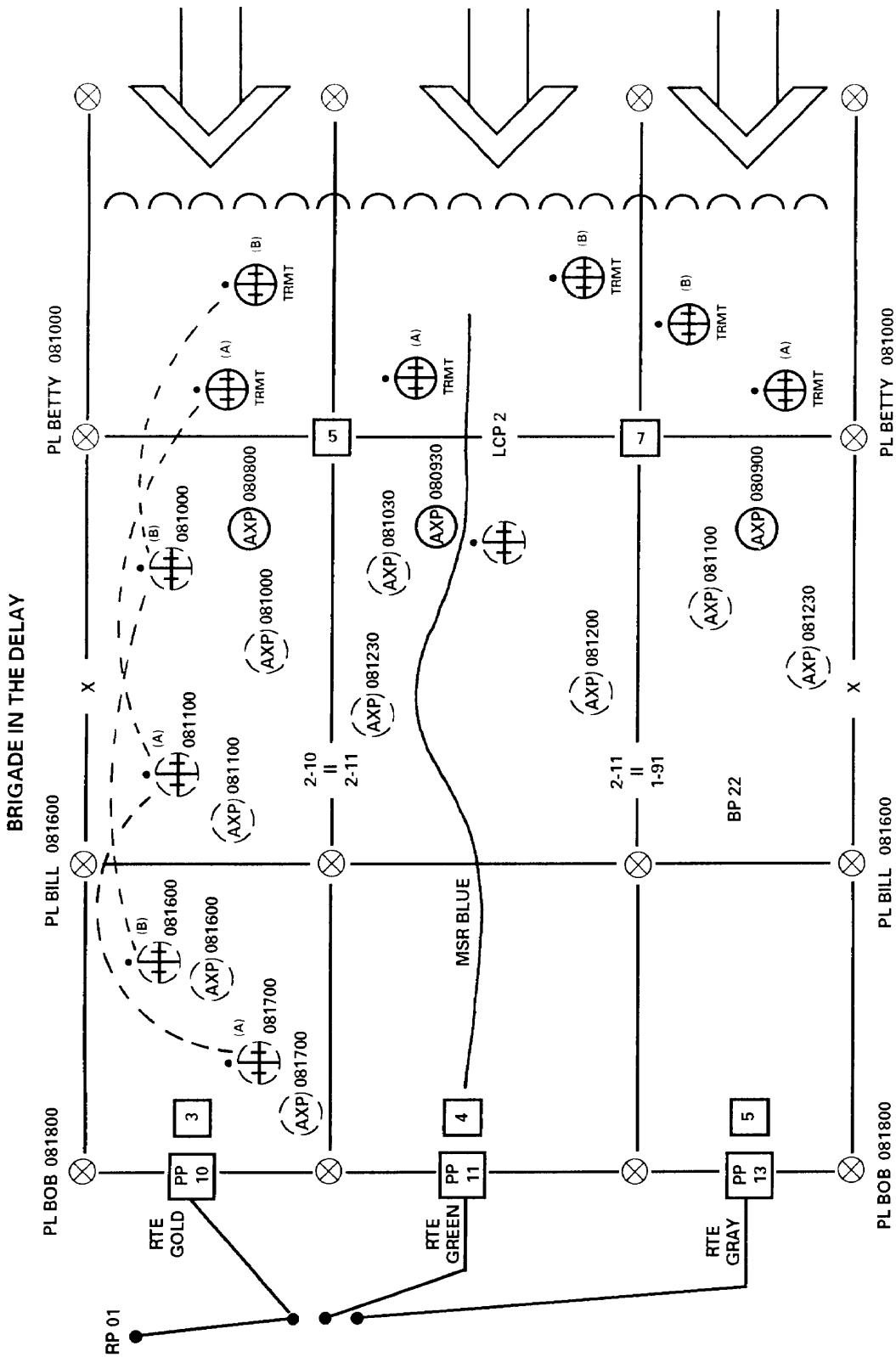


Figure 4-6. Medical overlay to brigade delay.

4-9. Medical Evacuation of Enemy Prisoners of War

Sick, injured, and wounded EPWs are treated and evacuated in regular channels when possible. They must be physically segregated from US and allied patients. Guards for these prisoners are provided in accordance with the division or corps SOP and are from other than medical resources. Refer to Appendix A for additional information.

4-10. Aeromedical Evacuation Operations

a. The effectiveness and efficiency of the Army Medical Department (AMEDD) is enhanced by the air ambulances capabilities to—

- Remove patients from otherwise inaccessible areas.
- Circumvent fixed defenses and natural obstacles.
- Deliver medical supplies and blood products.
- Provide a rapid evacuation means.
- Airlift medical personnel and equipment.

b. Individual medical evacuation mission requests are processed through communications channels designated in the HSS annex of the OPLAN or OPORD. Mission control is retained by the appropriate medical headquarters commander.

c. Medical evacuation missions are based upon requests from units within the CZ requiring HSS. Requests for augmentation or reinforcement of aeromedical evacuation capabilities are made by the controlling medical headquarters. Since the majority of requests for medical evacuation originate in the division, the basic concept of mission control is oriented on this requirement. Mission requests are processed through the fastest and most reliable means available. A sole-user channel is desirable for the expedient transmission of medical evacuation requests. Within their area of responsibility, surgeons at various levels of command may monitor requests and recommend priorities for patient evacuation.

d. Direct aeromedical evacuation support is normally provided to each division (from the corps) by one medical company, air ambulance (fifteen helicopters). It is the mission of this company to—

- Evacuate selected patients within the division.
- Transport medical elements to areas where they are critically needed.
- Ensure the uninterrupted delivery of blood, blood products, biologicals, and medical supplies.
- Provide for air crash rescue (less fire suppression).
- Rescue downed aircrews.

(1) The air ambulance company is modular in design. Each company has three forward support MEDEVAC teams (FSMT), and an area support MEDEVAC section (ASMS). The FSMTs, with three helicopters each, may be field sited in the BSA. The FSMT must become familiar with the—

- Brigade A²C² plan.
- Current threat.
- Terrain.
- Location of friendly fires.
- Restrictive airspace measures.

(2) In the brigade area, there is no requirement to file a *visual flight rules* flight plan with the flight coordination center. Aviators are under the procedural control of the brigade commander. Forward air traffic control tactical teams may provide NAVAIDS, terminal, or advisory service. The concept of effective A²C² at the maneuver unit level is dependent on procedures that will work in a degraded command, control, and communications environment. While the aeromedical evacuation mission is conducted on logistical or medical communications nets, the aircraft must monitor the tactical A²C² net. (Refer to FM 100-103 for a detailed discussion of airspace management and

Army air traffic in a CZ.) The ASMS are normally employed with the medical company in the DSA. Their primary mission is to provide augmentation to the FSMTs. They also provide aeromedical evacuation support on an area basis. The ASMS, with six helicopters, will move selected RTD patients from the BSAs to the DSA medical company for holding, or under certain circumstances, to corps hospitals as medically indicated. The structure of this unit allows for task organization to meet situational tactical demands. Additional teams may be attached or assigned by the corps medical evacuation battalion if needed for divisional support.

e. In addition to the air ambulance company (direct support) operating in the division area, aeromedical evacuation support is provided by one or more air ambulance companies (general support) or detachments in the corps. Their primary mission is to augment and reinforce forward deployed air ambulances units. To accomplish this mission, they—

- Evacuate patients from FSMC, MSMC, and MASH to corps hospitals.
- Evacuate patients from combat, CS, and CSS units operating between division rear and corps rear boundaries.
- Evacuate patients between corps level hospitals and intermediate staging points (MASFs, railheads, seaports).
- Transport medical teams and squads, as required.
- Deliver blood and blood products, medical supplies, and biological.
- Rescue downed aircrews.

f. The aeromedical evacuation mission requests are referred to the air ambulance unit or team supporting the particular level of health care. Proper flight clearance is obtained as the mission is accepted. If the mission cannot be accepted, the commander will coordinate with either lateral or rear supporting air ambulance units. The air ambulance unit/team coordinates routes, flight recognition, and airspace clearance with the A²C²

element. Depending upon the level of the mission, this could entail contacting the brigade A²C² manager on the command net, or contacting the Flight Control Center (FCC) designated to provide air traffic control (ATC) service support for each division. The FCC serves as the primary ATC facility for Army ATC in the tactical operations area. It is usually located to permit optimum air-ground communications and to provide a radio communications link between the terminal facilities of the division airfields, other airfields located nearby, the division main command post, and the corps flight operations center (FOC). The medical company, air ambulance, operations section must also maintain close coordination with the FCC, the division main, and the S2/S3 of the medical evacuation battalion to provide current tactical information to aircraft crews.

g. Within the corps, missions will be referred to the appropriate ASMC. The aircraft providing support to the ASMC will enter the corps ATC system which is serviced by an FCC organic to an ATC unit. These facilities are in direct communication with the FOC which is collocated with the USAF control and reporting center. The FOC will serve as the primary agency for en route control of Army air traffic and monitor the corps/division en route system.

h. Aeromedical evacuation support, which exceeds the capabilities of the assets available at division, becomes the responsibility of the medical evacuation battalion commander. He adjusts evacuation capabilities between supported divisions through his unit commanders based on the tactical situation and patient densities. The air evacuation unit commanders coordinate and receive flight missions, as appropriate. The requesting unit is notified, if possible, as to the estimated time of arrival for the support. If evacuation requirements overwhelm available medical evacuation battalion assets, the medical evacuation battalion coordinates for additional corps level assets. When nonmedical aircraft are used to meet the requirements for peak periods of patient evacuation, every attempt should be made to furnish medical personnel and equipment for en route medical care. The use of nonmedical assets requires intensive preplanning to ensure availability of assets when needed (Table 4-1). One source of personnel and equipment may be from the

additional treatment teams of the MSMC. In instances when the evacuation system becomes overwhelmed, every available space on general purpose aircraft may be used to transport those less severely injured without provisions for en route medical care. Regardless of the method used, control of nonmedical assets is maintained through medical channels regarding the designation of the point of origin, the casualties to be carried, and the destination.

i. It is essential that the maximum number of evacuation aircraft are available and mission capable each day. As a company sized aviation unit, the medical company, air ambulance, has its own organic AVUM capability. This allows the unit to perform maintenance. These unit tasks consist primarily of—

- Preventive maintenance.
- Maintenance repair.
- Replacement functions associated with sustaining a high level of aircraft operational readiness.

(1) Aviation intermediate maintenance companies provide the next level of maintenance support. The AVIM company provides mobile, responsive “one-stop” maintenance support. It combines what was formerly direct support and general support. The AVIM units can also provide backup AVUM support when an excessive backlogs exist in the supported unit. Aviation intermediate maintenance units are located in both the division and corps. Generally, the medical company, air ambulance, supporting a division may receive its AVIM support from the divisional AVIM company or the supporting nondivisional AVIM unit as situationally dictated. Normally, the aviation maintenance company within the division will perform AVIM functions consistent with mobility requirements and conservation of personnel and equipment resources. Additional intermediate maintenance support will be provided by the corps AVIM unit. In the main battle area maintenance and service actions will be limited to emergency maintenance and minor adjustments. The AVIM support for a division is provided by the aircraft maintenance company which will be positioned as

far to the rear in the DSA as possible. The AVIM unit will make maximum use of forward support teams at unit AVUM sites where the emphasis will be on component replacement and the direct exchange program.

(2) The medical evacuation battalion and the medical company, air ambulance, commanders must ensure that support arrangements are planned and coordinated from the outset. It must be recognized that the AVIM support of non-divisional assets is not the responsibility of the division AVIM, unless the air ambulance company is attached. This attachment places an additional burden on the divisional system. Maximum effort must be made to accomplish phased maintenance and other possible AVIM tasks through the use of nondivisional assets, to reduce this burden. An attachment relationship may be necessary at times to establish a formal support agreement.

j. The air ambulance forward MEDEVAC team is the smallest deployable element within the air ambulance company. It can provide a continuous 24-hour operation capability. It is designed to be a light and mobile element which is capable of relocating frequently with its supported units. When task organized, it will normally be augmented with a flight operations clerk and a FARE team from the operations platoon. If required, a technical inspector can also be included. When deployed forward in the BSA, this team collocates with either the FSB headquarters or the FSMC. The mobility of this unit is enhanced by sling loading its equipment (common table of allowances and table of organization and equipment) under the organic aircraft.

(1) The ability to effectively communicate is essential for the successful accomplishment of the medical evacuation mission. As this team has no organic communications capability, it is dependent upon the supported unit for this vital function.

(a) Medical evacuation requests are received either on the administrative/logistics net or a dedicated HSS net. In addition to specific mission requirements, the team requires both friendly and enemy forces intelligence. This intelligence data includes, but is not limited to—

- Air defense measures and capabilities.

- capabilities.
 - Artillery availability and
- weather conditions.
 - Air threats.
 - Current and projected
- and control information.
 - Army airspace command
- information and guidance.
 - Medical regulating in-
- tions to include refueling
 - Logistical support loca-
 - points.
 - Fire mission support.

(b) This team is most efficiently deployed when collocated with the FSB headquarters support operations cell. The information required to conduct the medical evacuation mission is available in the operations cell. The forward support MEDEVAC team augments the support operations staff with their flight operations specialist to handle the increased support

(2) Medical regulating remains the responsibility of the corps medical brigade or group. However, coordination for the medical evacuation of patients to the MASH or CSH from the FSMC or MSMC is accomplished by the DMOC. Medical regulating out of the division is accomplished procedurally and must be preplanned to ensure proper pre-mission planning by both ground and air units.