CHAPTER 14

SPECIAL HEALTH SERVICE SUPPORT PROVISIONS

14-1 Mass Casualties

Mass casualties may result from any type of warfare. The term *mass casualties* means that a large number of casualties has been produced simultaneously or within a relatively short period of time. It also means that the number of patients requiring medical care exceeds the medical capability to provide treatment in a timely manner. In other words, an absolute disparity exists between the number of patients, the available medical resources (personnel, facilities, equipment, supplies, communications, and evacuation means), and timely treatment.

14-2. Mass Casualty Situation

a. A mass casualty situation is present when one combat medic is confronted with two critically injured patients at the same time. An inability to provide these patients the required level of emergency medical treatment exists for a period of time. With a large number of casualties, the disparity may be multiplied many times; this greatly disrupts the doctrinal approach to treatment and evacuation. The disruption in adequate treatment distinguishes a mass casualty situation from a peals load of patients. Each patient in a normal peak-load situation can be provided reasonably individualized and timely treatment and evacuation according to normal HSS policy. Whether mass casualties occur during a routine or a peak-load situation, the patients already in (or being received by) the MTF may (could) also be managed according to mass casualty procedures.

b. In addition to the treatment and evacuation of a large number of military and civilian casualties, problems may occur from disruptions in the supply, communication, and transportation systems.

14-3. Adjustments in Health Service Support During Mass Casualty Situations

When patients are produced in numbers which exceed rated capabilities for conventional warfare, medical units that are within the direct effect within the theater must be prepared to change the standards and scope of medical treatment which they ordinarily provide. These changes in situations of medical disparity must be in compliance with the objectives to *provide the greatest good for the greatest number* and to return soldiers to duty as soon as possible.

14-4. Triage of Mass Casualties

Triage (sorting) of mass casualties means evaluating and categorizing casualties for priority of treatment and evacuation. This ensures the medical mass casualty principle: *providing the greatest good for the greatest number*. Triage is accomplished by highly experienced medical personnel who can make sound and quick clinical judgments. Medical personnel identify each patient by a category title which indicates the urgency of his receiving treatment and likelihood of his survival based upon the clinical problems and availability of medical care. Rapid triage assures that the available treatment is directed to the patients who have the best chance to survive. (See FMs 8-9 and 8-10-4 for discussions on triage.)

a. Treatment Categories of Mass Casualties. The following are four broad treatment categories of mass casualties:

(1) *Immediate.* 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.)

(2) *Delayed.* This category is for the patient whose condition is such that, with the application of modest emergency procedures, the possibility of disease or death increases very little by delaying major definitive procedures until they can be performed. An example of this emergency procedure would be an adequately splinted closed

fracture. (Approximately 20 percent of the casualties are normally in this category.)

(3) *Minimal.* This category is for the patient who can be returned to some form of duty by performing procedures requiring minimal resources. Follow-up treatment may be needed after the disparity phase is terminated. (Approximately 40 percent of the casualties are in this category and most are ambulatory.)

(4) *Expectant.* This category is for the patient whose injuries are massive and the probability of his survival is questionable. Examples of patients in this category are those with severe head injuries or massive severe burns. *Providing the greatest good for the greatest number* during the period of medical disparity dictates that a minimal number of medical personnel manage this category of patients. Patients should be managed with alertness (expectancy) to changes in their condition. They should be given symptomatic and supportive care until the available medical resources permit an intensive effort in their behalf. (Approximately 20 percent of the casualties are normally in this category.)

b. Medical Management. Although the nature of medical management during a mass casualty situation changes from *most critical come first to the greatest good for the greatest number,* at no time is the abandonment of a single patient contemplated. Therefore, treatment during a mass casualty situation is based on what can be done to save as many lives as possible and to maximize RTD. As each patient is treated, his condition is continually reevaluated to determine if a change in treatment emphasis is warranted. When the disparity between mass casualties and limited medical capabilities has been overcome, conventional principles and practices will prevail.

14-5. Command Surgeon Responsibilities in Mass Casualty Operations

a. The command surgeon's role in preparing for a mass casualty situation includes the development of a mass casualty plan. In addition to providing support to the normal mission, the command surgeon recommends protective measures against other forms of warfare which could result in the generation of mass casualties. When a mass casualty situation occurs, the surgeon is responsible for management of the casualties.

b. The command surgeon must develop a mass casualty plan that is clearly defined and which is sufficiently detailed for understanding at all levels. It must be executable at the appropriate level.

c. The command surgeon must address in the plan such items as–

- The medical situation.
- The evacuation policy (including alternate plans) and responsibilities for casualty evacuation and medical regulating.
- Alternate treatment locations and evacuation routes.
- NBC considerations. (For example, should patients with NBC injury or contamination be regulated to certain hospitals; or will all hospitals have to receive NBC contaminated or injured patients? [In World War I, separate hospitals were designated for chemical casualties.])
- Emergency resupply for Class VIII and blood.
- Nonmedical resources (especially personnel and transportation).
- The types of additional nonorganic medical assets needed.
- Priority of support and communications between evacuation assets and treatment assets.
- A clear delineation of medical responsibilities throughout the operational, technical, and administrative chains of command.
- Procedures for keeping necessary records and reports of the flow of casualties.

d. Mass casualty operations should be considered as part of an area damage control (ADC) mission, coordinated through and approved by the

tactical commander and his principal staff, and incorporated into the overall tactical plan. The mass casualty plan must–

- Be coordinated with echelons above and below.
- Be adaptable to day and night operations.

e. Directives from higher echelons should provide the guidance and support to permit effective execution of the mass casualty plan.

14-6. Mass Casualties in a Nuclear, Biological, or Chemical Environment

a. Chemical weapons may be encountered anywhere along the operational continuum. The proliferation of chemical and biological warfare capabilities in the armed forces of the Third World raises the specter of use of these agents in future conflicts. Technological advances have increased the vulnerability of established societies by providing more advanced weapons to insurgents and terrorists. The ability to build small nuclear devices and the potential use of chemical or biological weapons by terrorists are growing possibilities across the operational continuum. The threat of NBC use by Third World nations or radical groups vastly increases the perceived potential political leverage exercised by those nations or groups. (See FM 8-42 for a discussion of LIC.) For each of these three types of weapons, the US has separate and distinct national policies. (The policies are discussed in FM 100-1.)

b. Enemy employment of a nuclear weapon or of a biological or chemical agent may produce not only an unusually large number of casualties but may also impair the existing provisions for HSS. A nuclear attack reduces the medical capability (facilities and personnel), and contamination from an NBC attack markedly hinders medical operations.

c. In an effort to provide adequate HSS in an NBC environment, definitive planning and coordination are mandatory at all command levels. Higher headquarters must distribute timely, well-understood plans and directives to subordinate units. A nuclear medical consultant is assigned to the MEDCOM to assist the surgeon in the development of the HSS plan.

d. Although the surgeon is not responsible for making casualty estimates, he makes an appraisal of the number and types of patients so that HSS requirements can be anticipated and the command response on the situation can be managed. However, HSS must not be delayed pending such an appraisal.

e. Information on NBC defense is contained in FMs 3-3, 3-4, 3-5, and 3-100. Detailed guidance on the estimation of doses of radiation and the use of unit radiation service categories is contained in FMs 3-3, 8-9, and TM 8-215.

14-7. Primary Responsibility of Health Service Support Personnel in an NBC Environment

When NBC warfare is initiated, HSS personnel must protect themselves first from the effects of these agents. This action will enable them to properly continue their mission to conserve manpower rather than to become casualties. This emphasis on HSS personnel protection must be maintained, particularly during the management and treatment of contaminated patients.

14-8. Other Responsibilities of Health Service Support Personnel in NBC Environment

Other HSS responsibilities in an NBC environment include the following:

- Protecting patients in MTFs from the effects of agents.
- Identifying illnesses suspected of being caused by biological agents.
- Advising the commander on immunizations and prophylaxis.
- Evaluating field sanitation procedures.
- Ensuring safety of subsistence (food, ice, and water).
- Ensuring therapeutic availability.

- Predicting effects of agents on personnel.
- Avoiding contamination. (See FM 3-3 for guidance.)
- Using individual and collective protection. (See FM 3-4 and TC 8-12 for guidance.)
- Training in NBC decontamination. (See FMs 3-5, 8-10-4, and 8-285 for guidance.)

14-9. Commander's Responsibilities in an NBC Environment

a. Combat, CS, and CSS commanders at every echelon must ensure that NBC defensive procedures for self-aid, buddy aid, combat lifesaver, individual, and unit are adequately trained. Field Manuals 3-5, 8-10-4, and 8-285 discuss the requirement for supported units to provide manpower for patient decontamination. These field manuals also provide patient decontamination procedures. Nonmedical personnel must be trained to perform search and rescue, immediate first aid, and initial NBC decontamination. Command emphasis is required also to ensure that–

- The soldier's skills to perform self-aid and buddy aid are current.
- The combat lifesaver is also trained and proficient in combat lifesaver skills.

b. Extremely limited medical assets require that supported unit commanders establish unit teams to decontaminate contaminated patients at the MTF. These unit teams function under medical supervision while decontaminating patients.

c. Based on medical recommendations, commanders establish procedures for the control and administration of nerve agent pretreatment (FM 8-285).

14-10. Health Service Support Operations in a Chemical Environment

Enemy forces may employ various kinds of persistent, semipersistent, and nonpersistent agents such as nerve, blood, blister, and choking agents. Contamination may occur in the form of vapor and liquid droplets, aerosol, and thicken agents.

a. HSS operations in a chemical environment require the involvement of all unit commanders (combat, CS, and CSS). This allows medical commanders/leaders to make accurate and timely decisions concerning critical medical issues such as–

- Type and amount of pretreatment or antidote to be employed.
- Degree to which collective protection shelters are deployed and employed.
- Management of patient flow.
- Deployment of chemical agent patient decontamination and treatment sets.

b. The MTF's must avoid intentionally entering contaminated areas (contamination avoidance). Depending on the topography, the hospital site, its location relative to likely NBC targets, and the climatic conditions, medical units may have to operate from contaminated sites for short periods of time. After determining the type and persistency (longevity) of the contamination hazard, the unit commander will determine if the MTF will continue its mission in place or move to an uncontaminated site. A nonpersistent agent such as a blood agent will dissipate within minutes, whereas a persistent agent such as mustard may not dissipate for days or weeks. The MTFs will relocate from contaminated areas after the appropriate disposition of patients is accomplished and permission is received from higher headquarters.

c. Medical equipment will be protected by the use of chemical agent resistant containers, materials, and coatings and will be designed as much as possible to facilitate ease of decontamination.

d. Echelon I, II, and III MTFs should employ collective protection shelters when available. These shelters allow treatment personnel to function in contaminated areas. They *eliminate* the need for patients or treatment personnel within these shelters to wear protective clothing and

protective masks. These shelters also allow medical personnel to examine and treat patients unimpeded by the patient's or their own protective gear. They are a total system designed to afford prolonged protection from NBC hazards. (SeeTC 8-12 for discussion.)

14-11. Self-aid and Buddy Aid in a Chemical Environment

a. Soldiers are equipped and trained to perform basic soldier skill decontamination and first aid to themselves with minimum interruption to their mission.

b. Soldiers are equipped and trained to perform basic soldier skill decontamination and first aid to their buddies who are incapacitated or otherwise unable to help themselves. Buddy aid also includes those actions required to prevent further injury to the casualty from the effects of chemical hazards.

c. First aid includes the initial and continued administration of antidotes. (See FM 21-11 for discussions on self-aid and buddy aid in a chemical environment.)

14-12. Triage in a Chemical Environment

Triage (by separating wounded or chemically injured soldiers according to the type and severity of injury) is used to facilitate the most effective use of limited medical resources and provide the greatest good for the largest number. (See FMs 8-9 and 8-10-4 for discussions.)

14-13. Decontamination

a. Basic soldier skill decontamination is an individual (self), buddy, and unit responsibility performed with individual decontamination kits. Complete patient decontamination just prior to medical treatment is the responsibility of the patient decontamination team composed of nonmedical personnel from the supported units working under the direct supervision of medical personnel.

b. Chemical warfare agent patient treatment sets and patient decontamination sets are provided to MTFs.

c. Contaminated patients requiring lifesaving or limb-saving treatment are taken to an area designated for the emergency treatment of contaminated patients. After emergency treatment is performed, they are taken to the decontamination area. Patients are decontaminated, checked for completeness of decontamination, and moved to an uncontaminated treatment environment or into collective protection for further medical treatment. Arriving chemical casualties who have been previously decontaminated are checked for completeness of decontamination during the triage process. If further decontamination is required, and the patients are stable, they are moved to the decontamination area.

14-14. Medical Care for Chemical Casualties

a. Combat medic (aidman) treatment is normally the first medical care that a chemical casualty receives from medical personnel. In addition to treating for conventional injuries, the aidman rapidly examines the patient for signs of chemical injury and contamination, ascertains the number and type of agent antidote previously administered (if any), and decides if an additional antidote is necessary (see FM 8-285). Antidote(s) administered will be recorded on the patient's field medical card. Field dressings that protect against further contamination will be available.

b. When time and severity of injury permit, decontamination is accomplished prior to emergency medical treatment. When chemically contaminated patients are received at the BAS with conventional wounds, life- and limb-saving procedures take precedence over decontamination. As stated in paragraph 14-7, AMEDD personnel must protect themselves. Patients are managed to minimize the danger of the contamination hazard, treated, and then decontaminated without further aggravating their injuries. Medical judgment is rendered to determine which patients receive priority of treatment and evacuation. Priority is given to emergency treatment to preserve life or limb over immediate decontamination. Decontaminated and treated patients are placed in patient protective wraps before evacuation. Complete decontamination of patients at the BAS is limited to those patients requiring medical intervention before evacuation. Patients in mission-oriented protection posture (MOPP) not requiring stabilization care at the BAS will receive spot decontamination of their

protective overgarment. They will then be treated and RTD, or they will be evacuated without having their protective overgarment removed.

c. Many patients will have been previously decontaminated and treated at a BAS prior to arriving at the clearing station. Nevertheless, all arriving patients must be checked for contamination and, if necessary, decontaminated by nonmedical personnel from supported units. Patients are then treated and returned to duty; or they will be treated and placed in chemical agent patient protective wraps, and evacuated. Complete decontamination of patients at the clearing station is limited to those patients requiring medical intervention before further evacuation. Patients in MOPP not requiring stabilization care at the clearing station will be evacuated to the next echelon of care without having their protective garment removed.

d. Experience from World War I and from civilian toxic chemical, radiation, and infectious disease emergencies show clearly that these invisible, pervasive threats produce many purely psychological casualties, especially in uneducated and inexperienced populations. This is especially true when the agent is persistent, contagious, or produces delayed illness and death. Additionally, casualties who have suffered true, but minor, injury from the agent may have symptoms and disability which are out of proportion, and which continue longer than the actual injury explains. Often, the symptoms of both the pure and the partial psychological casualties may resemble the true injury, at least superficially. Diagnosis may be very difficult when everyone is in individual protection, but must be accomplished as far forward as possible. As with other forms of battle fatigue, evacuation of soldiers to rear areas and hospital environments often result in chronic disability. These casualties must be treated as far forward as possible with strong positive reassurance, rest and nutritional replenishment, and activities which restore confidence so that they may be rapidly returned to duty. Their treatment should be in proximity to their unit with the expectation that they will be returning to duty relatively soon.

e. Hospitals are located in uncontaminated areas away from potential tactical targets. Most chemical warfare agent patients arriving at hospitals from forward areas have been decontaminated; however, contaminated patients may come directly (usually from the rear areas) to the hospital. Decontamination of these patients is accomplished by nonmedical personnel from the base cluster or geographic location of the hospital. (See FM 8-285.) Medical personnel will supervise patient decontamination procedures to prevent further injury to the patient. Hospitals provide surgical and medical resuscitative, definitive, and specialty care. Chemical patients are returned to duty when fit, or are evacuated from the theater.

14-15. Medical Evacuation

a. Following the initial first aid and orderly collection of casualties by nonmedical personnel and the categorical triage and emergency medical treatment by medical personnel (paragraph 14-4), the casualties requiring additional extended treatment must be evacuated to the MTF best able to receive and treat them. Air and ground assets as well as personnel probably will be required from nonmedical units to support the evacuation of patients to the initial MTF. Subject to the provisions of the Geneva Conventions, military police may make EPW who volunteer available to work, and civil affairs units may procure indigenous personnel who may be employed to assist in both military and civilian patient collection and evacuation. Under no circumstances, however, may these EPW or indigenous personnel be exposed to grave danger.

b. The characteristics and lethality of an integrated battlefield and their impact on combat operations require the coordination of medical evacuation plans with tactical plans. The method of patient evacuation depends on the tactical situation, degree and type of area contamination, and availability of transportation assets. The evacuation plan supports the tactical commander's plan.

c. Caution must be exercised when aeromedical evacuation is employed on the intergrated battlefield. Several problems are associated with usage of aeromedical evacuation in a chemical or nuclear contaminated environment. For example, aircraft are not easily decontaminated, and the rotor or propeller wash may cause contamination to be resuspended and blown into all nearby objects including the aircraft itself. Should it become

necessary to commit air evacuation resources into a contaminated area, then these resources should remain dedicated to operations within contaminated areas.

d. The mass casualty potential of NBC warfare establishes the need for backup support for medical evacuation assets. Units will be prepared to use organic vehicles to transport casualties.