

## APPENDIX C

### MEDICAL MANAGEMENT AND TREATMENT IN CHEMICAL OPERATIONS

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#### C-1. General

All MTFs must be prepared to receive mass casualties caused by exposure to chemical agents. A mass casualty situation exists when the number and type of casualties exceed the local medical support capabilities for their care. If the unit follows conventional operational SOPs, an overwhelming backlog of work will rapidly accumulate. Such backlogs can result in avoidable loss of life and limb with suffering. Therefore, plans for mass casualty situations must be prepared and units must be trained in applying these plans. The unit must be ready to operate with minimal confusion. Medical units must provide medical treatment to these casualties and supervise their decontamination. Normally, individual service members are responsible for their own decontamination. For casualties who are injured and unable to decontaminate themselves, this process has to be performed by buddy aid or at an MTF by nonmedical personnel from the supported unit.

a. At Echelons I and II (unit and division) including nondivisional units, the supported unit commander must provide 8 nonmedical personnel to perform patient decontamination. At Echelons III and IV (corps and COMMZ) hospitals, a 20-man patient decontamination augmentation team or 20 nonmedical personnel must be provided to perform patient decontamination. The base cluster commander or units within the geographical area of the hospital must provide the 20 nonmedical personnel.

b. Medical personnel must supervise patient decontamination personnel. The final determination on the completeness of patient decontamination rests with medical personnel.

c. If the supported units do not have the necessary resources to provide nonmedical personnel, the units (not the medical services) must address this issue with higher headquarters.

#### C-2. Objectives of Health Service Support in Chemical Operations

The objectives of health service support in chemical operations are to—

a. Return to duty the maximum number of personnel as soon as possible.

b. Manage casualties so that chemical agent injuries are minimized and any other injuries or illnesses are not aggravated.

c. Protect persons handling contaminated casualties or working in contaminated areas.

d. Avoid spreading contamination in ambulances, other evacuation vehicles, MTFs, and adjoining areas.

e. Continue the MTFs operations so that normal services unrelated to the medical treatment of chemical agent injuries are maintained.

#### C-3. Planning for the Management and Treatment of Chemically Contaminated Casualties

The initial management and treatment of casualties contaminated with a chemical agent will vary with the tactical situation and the nature of the contaminant. Therefore, each MTF must have a plan and put it into effect immediately, then modify it to meet each specific situation. Patient decontamination sites are collocated with an MTF. This ensures medical supervision of patient decontamination is available. Specifics on management of chemically contaminated patients at the MTF are found in FM 8-10-7. Each MTF has identical medical equipment sets (MES) for chemical agent patient decontamination and treatment. The numbers of each type of MES vary, depending on the echelon of care. Example: The battalion aid station (BAS) has one chemical agent patient decontamination MES and two chemical agent patient treatment MES. Each MTF must be prepared to treat—

- Chemical agent casualties generated in the geographical area of the MTF.

- Patients received from a forward and, in some cases, a lateral MTF.

#### C-4. Emergency Medical Treatment of Chemically Contaminated Casualties

a. Chemical agent casualties received at an MTF may also have traumatic wounds or illnesses due to other causes. Management of these patients must minimize the chemical agent injuries without aggravating their traumatic wounds or illnesses.

b. Triage of the arriving casualties is extremely important. A decision is made whether EMT or

decontamination of the casualty requires priority. Airway management and/or control of hemorrhage may be equal to or more urgent than treatment for chemical agent poisoning. Therefore, EMT measures may have to be performed in rapid sequence with decontamination or by simultaneous team actions.

c. For vesicant-contaminated casualties who have traumatic injuries or other illnesses, decontamination should be accomplished as soon as the situation permits. However, the general principle "better blistered and living than decontaminated and dead" must be followed. Lifesaving measures for a traumatic injury or some illnesses must be given priority over immediate decontamination, although the delay may increase the chemical agent injury.

d. When a contaminated casualty has another injury or illness resulting in respiratory difficulty, hemorrhage, or shock, the order of priority for emergency action is as follows:

- (1) Administer chemical agent antidote, if available.
- (2) Control respiratory failure (provide assisted ventilation) and/or massive hemorrhage.
- (3) Decontaminate the casualty.
- (4) Administer additional EMT for shock, wounds, and illnesses which are so severe that delay may be life or limb threatening.
- (5) Evacuate the casualty as soon as possible, if necessary.

### C-5. Patient Decontamination Methods

a. Patient decontamination serves two purposes: It prevents the patient's system from absorbing additional contaminants. It also protects medical personnel treating the patient and other patients from contamination. Accumulated contamination in the MTF is a serious threat to medical personnel and patients. Accumulated contamination may also impose a serious medical logistical burden on the unit. The effectiveness of decontamination is strongly influenced by the time lapse between initial contamination and decontamination. In many cases, the patient may have absorbed dangerous quantities of a contaminant before arriving at the MTF.

b. Each service member is trained in self-aid and buddy aid decontamination and is equipped to do so. However, any patient arriving at an MTF from a chemically contaminated area is considered contaminated, unless there is positive proof to the contrary.

c. A decontamination area is established on the downwind side of the MTF. It is provided with overhead protection such as plastic sheeting, trailer covers, ponchos, or tarpaulins. Only those patients requiring treatment at a forward MTF will have their protective overgarments and other clothing removed. Needless removal of protective clothing only increases the patient's vulnerability to liquid agent exposure with

resultant increased injury. Also, forward MTFs do not have replacement protective overgarments. Any ambulatory patient decontaminated by clothing removal becomes a litter patient; he must be placed in a PPW for protection from chemical agents during evacuation. Patients not requiring treatment at a forward MTF, but requiring evacuation to the next echelon MTF must have their MOPP gear and equipment spot decontaminated. Spot decontamination will remove gross contamination, reducing the hazard to the casualty and evacuation personnel.

d. Every person entering the decontamination area (including patients) must be masked or have other respiratory tract protection in place. Most contaminants are removed by carefully removing all clothing. The patient's protective mask is not removed. Remove the mask hood, overgarments, booties and boots, the BDU, and undergarments. For step-by-step procedures in performing patient decontamination, see FM 8-10-7.

e. After patients have been decontaminated, exercise rigid control to prevent exposing their unprotected skin to a liquid chemical agent. Skin exposure to a chemical agent vapor must be minimized even though the exposure required for significant effect is much greater. After treatment in the clean treatment area or CPS, the patient is placed in a PPW and taken to the evacuation point to await evacuation. Medical personnel must monitor patients at the evacuation point to ensure that their condition remains stable; if their condition changes, additional treatment may have to be provided before evacuation.

f. Ambulatory patients may be able to decontaminate themselves and assist with the decontamination of other ambulatory patients. Their overgarments are not removed unless they must enter the clean treatment area or CPS for treatment. For patients not entering the clean treatment area or CPS, spot decontaminate the overgarment to remove gross contamination. When possible, have them proceed in groups of two or three to facilitate control. Ambulatory patients require constant observation and periodic assistance during the decontamination process. The aidman at the decontamination point removes all bandages from patients that will be treated at the MTF. Bandages are not replaced unless needed to control bleeding. After decontamination, each patient goes through the shuffle pit to the clean treatment area where wounds are treated and if possible, protective covering is restored. Restore protective covering by taping holes or tears in the protective overgarment. Patients are then returned to duty or go to the evacuation point, as their conditions dictate. Ambulatory patients with injuries that do not require immediate attention but require treatment at a higher echelon MTF are evacuated in their MOPP ensemble. **EXAMPLE:** A patient with a broken arm has a

stabilizing splint on. This individual does not require treatment at the BAS; however, his MOPP gear must be spot decontaminated to remove gross contamination before evacuation to the Echelon II MTF.

### C-6. Logistics

a. Provisions must be made to ensure that medical personnel are supplied and equipped to manage and treat contaminated casualties. Also, supplies and equipment must be provided for protection of personnel manning the contaminated areas. Medical supplies are stored or stocked in a manner that reduces potential loss from chemical contamination.

b. Patient protective wraps must be available for casualties whose injuries require decontamination (clothing removal) for treatment in the clean treatment area. After treatment, decontaminated patients must be placed in PPWs before they are moved to the evacuation point (para C-5e above).

### C-7. Training

Commanders must ensure that medical personnel and decontamination team members (provided by the supported unit) are trained to manage, decontaminate, and treat chemical agent contaminated casualties. Personnel must be trained to protect themselves from chemical agent injuries. In addition, provisions must be made for practice exercises to enable them to accomplish their responsibilities with speed and accuracy. For example: Decontaminating a casualty with speed is achieved through practice. Training emphasis should be placed on the following subjects:

- Employing individual protection.
- Practicing personal decontamination.
- Using chemical agent detection paper and the CAM to monitor for and detect chemical agents.
- Providing EMT.
- Performing casualty decontamination.
- Evacuating decontaminated casualties.
- Evacuating contaminated casualties.
- Sorting and receiving contaminated casualties into a system designed for the treatment of both contaminated and noncontaminated casualties.
- Patient lifting and transfer techniques.

### C-8. Casualty Evacuation

a. Contaminated casualties should be decontaminated as close to the areas where they were contaminated as possible. Their MOPP gear and clothing should not be removed until they arrive at an MTF. Evacuation by ground ambulance must not be delayed for completion of decontamination. Upon arrival at the MTF where treatment will be provided, all contaminated clothing and equipment (except the protective mask) are removed and the skin and protective

mask are decontaminated; spot decontaminate the skin. Decontaminated patients will not be a hazard to persons handling, treating, or transporting them. After decontamination at the field MTF, the patient is placed in the clean holding area to await admission into the CPS or clean treatment area. They must be protected from recontamination. Patients will keep their protective mask on until they are in the clean treatment area (away from the hotline) or are in the air lock of the CPS (see FM 8-10-7).

(1) Once treated, the patient is placed in a PPW before movement to the evacuation pickup point. The PPW protects the individual from further contamination. Individuals inside the PPW no longer have to wear the protective mask and are evacuated as clean. A plastic window in the PPW permits patient observation. A patient in a PPW and left in a sunny area is subject to heat build up. The protective mask remains with the patient during evacuation even though it may not be worn.

(2) If a chemical attack occurs, medical units in the evacuation system can expect to receive contaminated casualties because of the need for hasty evacuation. Therefore, extreme care must be taken to avoid spreading the contamination.

b. Before contaminated casualties are evacuated by Army aircraft or landing craft, they should be decontaminated. Otherwise, the vapor from the chemical agent may endanger the crew and other personnel, as ventilation is poor in aircraft compartments and other enclosed spaces. If casualties cannot be decontaminated before evacuation, they should be evacuated by ground ambulance. These casualties should wear their protective masks. The hazards of the chemical agent to other persons can be further minimized by applying the following measures:

- Prepare each litter by placing an impermeable cover over it and an open blanket on top of the cover.
- Place the casualties on the prepared litters and fold the sides of the blankets over them. Although this measure helps protect other persons, it increases the casualties' exposure to the contaminant and increases the possibility for heat injuries.
- Provide as much ventilation during transport as the weather and other conditions permit.
- When the casualties are removed from the litters, the impermeable covers and blankets must remain with them. If the litters have not been protected with impermeable covers, they must be treated as contaminated.

c. Patients being evacuated by Air Force aeromedical evacuation aircraft, in essentially all cases, will have been decontaminated as a result of admission to a MTF.