

CHAPTER 7

OTHER HEALTH SERVICE SUPPORT**Section I. PREVENTIVE MEDICINE SERVICES****7-1. General**

On the integrated battlefield, PVNTMED services will be in greater demand than at any other time, especially under biological warfare conditions. Preventive medicine personnel will be called upon to assist the commander in determining the health hazards associated with nuclear fallout; the safety of drinking water in an NBC environment; as well as determining when to use prophylaxis, immunizations, and other PVNTMED measures (PMM) associated with NBC warfare. Preventive medicine personnel must be aware of the medical threat in the AO. They must continually update their data base on diseases, potential disease vectors, and the susceptibility of troops to these diseases. Under NBC conditions, diseases may be manifested that are known to exist in the area, but were not being transmitted to our forces. The appearance of diseases, or arthropods not known to exist in the AO are indicators that biological warfare agents have been used.

7-2. Disease Incidence Following the Use of Nuclear Weapons

a. Determining Factors. Factors of prime importance in determining the nature and severity of the effects are—

- Population density.
- Degree of industrialization.
- Availability of food supplies.
- Availability of water.
- Climate.

Other considerations such as the moral and legal requirements to defend and assist allies, including civilians, will also affect HSS planning and operations. Finally, the manner and situation in which nuclear weapons are used are of importance. A single weapon detonated in a socially stable area will have far less serious effects than a detonation in an area where combat has already disrupted the social stability. At Hiroshima and Nagasaki (excellent examples of the first type of situation), the survivors who could get away were able to obtain food, shelter, and care from surrounding intact areas. With prolonged combat operations, such intact areas would not be available, resulting in no food, shelter, or care for any survivors. Social order will breakdown and there will be slack of effective medical care; including PVNTMED functions and facilities.

b. Disease Incidence. Without PVNTMED capabilities, increased incidence and morbidity from diseases will follow. Some diseases will predominate in incidence, depending upon the geographical areas involved and the endemic diseases present.

(1) In urban areas in temperate climates, several diseases are epidemic threats. These epidemic threats may include—

- Dysenteries due to a variety of pathogens.
- Rickettsial diseases, particularly typhus and scrub typhus.
- Hepatitis.
- Plague.
- Tuberculosis.
- Sexually transmitted diseases.
- Malaria and cholera in many parts of the world.

(2) There are several reasons for the increased risk of disease, including—

- Crowding of surviving populations with limited sanitary facilities, such as was seen in Europe at the end of World War II.
- Lack of immunization facilities with resultant increases in the susceptible fraction of a given population.
- Lack of pest management.
- The effect of irradiation on susceptibility to infection. With the high levels of fallout covering wide areas, a large number of people would sustain sublethal whole-body doses of irradiation. The interaction of irradiation with infections is not clear; it is possible that the result is uncovering latent infections and decreased resistance to infection. This may result in an increased incidence of disease.
- Upsets in ecological balance and host-parasite relationship following the use of nuclear weapons. Different classes and orders of animals have marked differences in sensitivity to irradiation. Arthropods, for example, are much more resistant than are vertebrates. The normal balance between arthropods and birds which prey upon them in a given area may be severely upset, resulting in a marked overgrowth of the arthropods. If these included vectors of disease or arthropods which destroy vegetation, there would be a serious increase in disease hazards, or serious destruction of food crops.

7-3. Preventive Medicine Section

The PVNTMED section of the divisional and nondivisional medical companies perform analysis on water sources and supplies to determine the presence or absence of NBC agents; see Appendix E for additional information. Based upon their findings, the water is released for consumption, or is restricted from use until it is treated (usually by quartermaster personnel using the reverse osmosis water purification unit). This section conducts limited entomological surveys to determine the existence of disease-vectoring arthropods in the AO. They inspect food service facilities to determine the extent, if any, of NBC contamination. They evaluate the unit's immunization status; the unit's

use of prophylactic drugs for specific diseases (such as antimalarial tablets); unit personnel's use of nerve agent pyridostigmine pretreatment tablets, if warranted; and the unit's application of personal hygiene and field sanitation procedures. Based upon their findings, they provide recommendations for corrective actions to the commanders. They assist in training unit field sanitation teams (FM 21-10-1). They are not members of the unit field sanitation team.

7-4. Environmental Sanitation Detachment

The PVNTMED Detachment (Sanitation) provides PVNTMED services on an area basis to units within their assigned AO. These services include, but are not limited to—

- Conducting water surveillance, including NBC contamination.
- Performing food service sanitary inspections.
- Conducting arthropod surveillance and limited pest management.
- Providing epidemiological consultation.
- Advising commanders on the employment of PMM.
- Training the supported units' field sanitation teams.

7-5. Entomology Detachment

The PVNTMED Detachment (Entomology) provides PVNTMED services on an area basis to units within their assigned AO. These services include, but are not limited to—

- Conducting pest (arthropod and rodent) surveys and surveillance.
- Conducting arthropod control (ground and air) operations. The aerial spraying missions are dependent upon availability of helicopter support.

Conducting limited water surveillance, including NBC contamination.

- Providing limited epidemiological consultation.
- Advising commanders on the employment of PMM.
- Training the supported units' field sanitation teams.

Section II. VETERINARY SERVICES

7-6. General

The US Army Veterinary Service is the Executive Agent for veterinary services to all services within the Department of Defense (DOD). They ensure that food supplies are safe and provide veterinary

medical and surgical care for government-owned animals throughout the TO. On the integrated battlefield, their role is particularly important; the potential for food supplies becoming contaminated with NBC agents is high.

7-7. Food Protection

The potential for terroristic contamination of food procurement facilities and food supplies is real. The NBC agents may be introduced during production, or in the storage area of the procurement facility; while the product is in transit; at the military storage facility; or the unit food service facility. Regardless of where the agent is used, the effect is the same; personnel will become ill or die if they consume the contaminated food. For this reason, veterinary personnel inspect and monitor food from its procurement until it is issued to the consumer to ensure its safety. Throughout the TO, all services (Army, Navy, Marine, and Air Force) logistics personnel must take precautions to protect subsistence from contamination.

7-8. Animal Care

Veterinary personnel are concerned with the protection of government-owned animals and animals being procured for consumption by our forces. Protection and veterinary care of government-owned animals can be a challenge to veterinary personnel. Animals must be protected from NBC contamination whenever possible. Animals should be moved into enclosures to protect them as much as possible from contamination. Protective equipment is not available for military working dogs. However, protection of the animal's feet and body must be considered. Butylrubber boots can be used as foot covers when dogs must cross a contaminated area. Since CPS systems are not available, animal treatment facilities must be established in contamination free areas. Veterinary treatment personnel must remain in MOPP 4 when caring for NBC animal casualties until the animals have been decontaminated. The treatment of military working dog chemical agent casualties is outlined in Chapter 7, FM 8-285. Animals suffering from the effects of biological or nuclear weapons must be treated symptomatically.

7-9. Food Decontamination

All food suspected of being contaminated with NBC agents must be inspected for wholesomeness by veterinary personnel before used. Appendix F provides guidance on the decontamination of subsistence. Veterinary personnel are involved in the detection and monitoring of NBC contaminated rations. Veterinary personnel provide advice on the decontamination of rations to unit personnel owning the rations, or chemical personnel performing the actual decontamination. Depending on the type of contamination and packaging, the food may be—

- Consumed without being decontaminated;
- Decontaminated and consumed; or
- Destroyed.

Some items may be held to allow time for natural decay of nuclear or chemical contamination before consumption. The decision on disposition of the food is made by veterinary personnel and the commander. However, the final determination of food safety is made by veterinary personnel.

Section III. LABORATORY SERVICES

7-10. General

Laboratory services must continue their support role even under NBC conditions. For the provision of clinical and diagnostic support, the facility must be located in a contamination free area or be inside collective protection. Designated laboratories within the theater will analyze biological specimens (including initial presumptive identification of biological agents by evaluating specimens from symptomatic patients) and selected environmental samples collected from the AO. See Appendix G for procedures in collecting biological specimens.

7-11. Echelon II

Laboratory support at this echelon is extremely limited; it consists mainly of laboratory procedures in direct support of ATM activities. Collection of biological specimens for laboratory investigation of biologic or chemical agents use is required. Biological specimens are forwarded to supporting laboratories.

7-12. Echelon III

In the rapidly developing theater, laboratory support in MASH and CSH units is limited to acute surgical cases, blood services, and statim (STAT) services required for intensive care operations. Only extremely limited microbiology services (parasitological exams and gram stains) are provided. In a mature theater, the microbiology services may be augmented to include limited cultures and sensitivity testing. Patients with documented or suspected exposure to biological or chemical agents will be medically evaluated and specimens will be forwarded through technical channels to supporting laboratories as established within the theater TSOP.

7-13. Echelon IV

a. *Clinical Laboratories.* The clinical laboratories in the field and general hospitals will have microbiological capabilities to provide presumptive identification of a limited number of biological agents in a variety of tissue and fluid samples. Ability to detect chemical agents in biological samples will require forwarding specimens to a more sophisticated supporting laboratory in the theater.

b. *Area Medical Laboratory.* The area medical laboratory (AML) is the specialized laboratory within the theater that provides laboratory procedures with a focus on the command total health environment. A major laboratory focus is the evaluation of suspected NBC and directed energy health hazards. Using extremely sophisticated equipment and methods, the AML has the capability to detect and identify biological and chemical agents in a variety of biological, environmental, and animal specimens. Direct support from CONUS-based laboratories will aid the AML with positive confirmatory identification of biological agents. Definitive patient treatment may be based on the analytical and consultative support provided by the AML. Proper collection and rapid shipment of specimens by supported MTFs will ensure effectiveness, timely, and accurate laboratory analyses.

7-14. Zone of Interior

Designated zone of interior laboratories perform definitive analyses to provide positive confirmatory identification of suspect biological agents.

7-15. Field Samples

Chemical corps personnel collect environmental, air, soil, and vegetation samples. Preventive medicine personnel collect samples from drinking water sources and supplies. Veterinary personnel collect samples from food supplies. Samples will be subjected to initial screening with rapid test kits and further analysis in a definitive testing laboratory. Assets, both within the theater as well as in the CONUS base, will test environmental samples for possible contamination with biological and chemical agents. Comprehensive data bases will be maintained to provide historical testing results and will aid in the field commander's decisions to conduct operations in an NBC environment.

7-16. Biological Specimens

Specimens are collected from patients at MTFs throughout the TO. These specimens may include vomitus, urine, blood, tissue, sputum, bone marrow, and spinal fluid. Specimens may be collected during special operations by medical personnel that are attached to lead elements of special operations forces conducting NBC reconnaissance. Specimen collecting techniques and handling are critical to accurate analysis. Routine and specialized collection techniques will be employed to obtain specimens for laboratory evaluation. Equally sophisticated methods of processing and shipping will ensure that referral laboratories receive viable specimens to analyze.

Section IV. DENTAL SERVICES

7-17. General

Dental service support is provided at Echelons II, III, and IV on the integrated battlefield. Because of their location close to main supply routes, CS, and CSS assets, dental units are vulnerable to an NBC strike. Nuclear, biological, and chemical operations have an impact at all echelons. Dental personnel may be directly affected by NBC agents in their AO, or indirectly when treating contaminated patients. Dental units must be prepared to survive and provide HSS on the integrated battlefield. Defense against NBC weapons must be included in the dental unit's TSOP. Individual and collective tasks must be intensely trained on a regular basis; survival depends on the ability to use basic survival skills in the event of an NBC attack.

7-18. Mission in a Nuclear, Biological, or Chemical Environment

The overall mission of dental units to provide dental services is greatly affected in the aftermath of an NBC attack. First, the unit must survive the attack and rapidly recover from its effects. Secondly, in the event of mass casualties, the patient care effort must be redirected from dental treatment to the alternate wartime role of augmenting adjacent MTFs. Providing dental services in an NBC environment will generally be limited to the treatment of maxillofacial emergencies requiring immediate attention.

7-19. Dental Treatment Operations

As a general rule, in the aftermath of an NBC attack, dental treatment operations cease until deliberate decontamination of the unit and its equipment has been accomplished. Only maxillofacial injuries of an immediate life-threatening nature should be considered for treatment. After an attack, the resources of the dental treatment facility (DTF) are redirected toward support of any mass casualty situation which may have been generated at an adjacent MTF, or toward decontamination and relocation to a noncontaminated area.

7-20. Patient Treatment Considerations

The only category of dental treatment appropriate in an NBC environment is emergency; and then, only those emergencies of an extreme nature which demand immediate attention. The most likely condition requiring such attention would result from maxillofacial trauma and would be most likely to present at an MTF rather than a DTF. Although the likelihood of a requirement to treat dental patients in an NBC environment is extremely low, DTFs must have a plan in the event that such patients do present.

a. Patient Decontamination. Decontamination of patients, dental patients included, is an absolute requirement before treatment can be rendered. Contaminated patients are triaged and decontaminated before treatment (except for life- or limb-care). Both triage and decontamination should be accomplished as far forward as possible. Specific details on patient decontamination are in Appendix C. It is important to note that normally patient decontamination is not performed by medical or dental personnel. Initial decontamination at the basic skill level is accomplished at the casualty's unit. Detailed patient decontamination is accomplished by the patient decontamination teams (made up of nonmedical personnel from the supported units) that are supervised by medical personnel at the MTF.

b. Patient Decontamination at Dental Treatment Facilities. Neither dental units nor their subordinate DTFs are equipped to support detailed patient decontamination. Any contaminated patients arriving at a DTF requiring urgent attention must be directed or evacuated to the nearest MTF with a patient decontamination capability prior to treatment.

7-21. Patient Protection

Dental treatment facilities must also consider the need to protect patients in their care in the event of an NBC attack, or when the threat of an attack is high. Special consideration must be made for maxillofacial patients whose condition prevents them from wearing their protective mask.

a. Immediate Response. In the event of an attack or when the alarm sounds, dental treatment providers immediately cease work and mask. The patients should do likewise. Only after putting on their own masks, do the dental treatment providers assist the patient, if necessary, by removing materials which impede the patient's masking. Only those materials which impede masking or may compromise the airway (such as rubber dam frames or impressions) are removed, the rest are left in place until the all clear is sounded. Special attention must be given to patients who may have been medicated into a less than fully conscious state, or are otherwise incapacitated.

b. Mission-Oriented Protective Posture Considerations. The MOPP level should be taken into account when determining the category and extent of dental treatment to be provided. Patients,

including those seated in the dental chair, should be at the MOPP level prescribed for the DTF by its parent headquarters. Dental treatment at MOPP Levels 3 and 4 is, of course, rendered impossible by the requirement to wear the protective mask; however, treatment is still possible at Levels O, 1, and 2. Treatment at MOPP Level 2 should be limited only to emergency care requiring urgent attention. At MOPP Level 1, most types of dental emergencies can be accommodated; however, only minimal essential treatment should be undertaken in order to reduce risk of the patient being caught in a compromised state. At MOPP Level O, the provision of dental treatment generally is not limited. However, the degree of the NBC threat forecast for the area should be considered before undertaking extensive treatment.

c. *Maxillofacial Injuries.* Patients with maxillofacial injuries which prevent proper fit and seal of the individual protective mask must be placed in a PPW. Though patients with these types of injuries are most likely to be found only in MTF channels, DTFs should nevertheless be prepared. The DTFs should maintain one or two PPWS on hand for this purpose. Currently, the PPWS are available only in the chemical agent patient treatment set that is organic to MTFs. Thus, special arrangements for their procurement for dental use must be made with either adjacent MTFs, or the servicing medical logistics battalion.

Section V. COMBAT STRESS CONTROL

7-22. General

When operating under the threat of or under actual NBC conditions, soldiers will be at a higher risk of suffering combat stress-related conditions. The invisible, pervasive nature of many of these weapons creates a high degree of uncertainty and ambiguity; presenting fertile opportunities for false alarms, mass panic, and other maladaptive stress reactions. The persistent or delayed effects of some NBC weapons will create fear for the future, the homeland, and perhaps even for the survival of civilization. Therefore, commanders and leaders must take actions to prevent and reduce the numbers of combat stress cases in this environment. The symptoms and physical signs caused by excessive stress are similar to some signs of true NBC agent injury. In World War I, inexperienced units initially evacuated two pure stress cases for every one true chemical casualty. Some minor chemical casualties, also had major stress symptoms. Therefore, far forward triage is essential to prevent over evacuation and loss of the individual to the unit.

7-23. Leadership Actions

a. *Keep Personnel Informed of the Situation.* Keep information flowing, dispel myths, and control rumors by—

- Discussing the situation and its possible long-term implications honestly.
- Maintaining the perspective that the best chance for mission accomplishment is assured when the unit and the Army stays effective, practices AirLand Operations doctrine, and defends the democratic system of the United States.

b. *Train Soldiers to Survive.* Emphasizing the intention of the United States Army is deterrence. Use training procedures that—

- Tell the lessons of history on NBC weapons employment. Show that the enemies' use of NBC weapons will not give him enough advantage to justify the risk to his forces.

- Training increases the chance of surviving and winning should the enemy use NBC weapons.

c. *Put NBC Defense in Realistic Perspective.* Continuously strive to maintain a realistic perspective in the unit by—

- Comparing the risks of the threat with the increased risk of facing the conventional threat in varying levels of MOPP. The decision to initiate a MOPP level should be like deciding how much cover is needed to protect a unit from conventional weapons.

- Choosing the lowest MOPP level that protects the unit, yet permits accomplishment of the mission. That's what the "MO" in MOPP stands for! Do not try to be 100 percent safe from chemical attack if it means that there is—

- Only a small chance of mission accomplishment.

- A high probability of being killed by the enemy.

- A high personnel loss due to heatstroke.

- Emphasizing buddy aid as a means of keeping watch for each other. Personnel should always seek buddy aid before taking additional antidotes. This will reduce the numbers of individuals using their antidotes when not needed; and prevents the increased heat stress caused by the effects of atropine on the body's cooling capabilities.

d. *Reduce Ambiguities.* Have unit and scenario-specific SOPS with clear, objective criteria on when MOPP is to be assumed or increased.

e. *Train in the Protective Mask.* Train in the protective mask often. It takes repeated wear and time to acclimate and get over the claustrophobic feeling of wearing the mask. The training can be conducted during a variety of activities.

- Have personnel wear the mask often in garrison or lulls, even at desk jobs. If on average, one person in five wears the mask at any given time, everyone will quickly become familiar with it.

- Periodic prolonged wear (8 hours or more) helps soldiers get over the hump and realize that they can tolerate the discomfort.

- Have personnel wear the mask while performing combat related (mission essential) tasks.

f. *Train in Mission-Oriented Protective Posture Level 4.* Training in MOPP Level 4 (or simulated MOPP 4, which is to overdress while wearing the protective mask, overboots, and gloves) will increase personnel confidence in their abilities to wear the ensemble.

g. *Issue Each Soldier a Protective Mask.* Issuing each soldier a mask ensures that the mask is the correct size. This places the responsibility of maintaining the mask on the individual. It gives the individual a feeling of trust, confidence, and even grudging "cohesion" for the mask.

h. Assure that Sleep Plans are Safely Practiced. Have everyone practice sleeping with their mask on. Buddies observe each other to assure the mask is not obstructing or stopping breathing. Assure that sleep is done only in safe places. Require ground guides for all vehicles in the unit bivouac area. Plan should provide at least 4 hours of uninterrupted sleep during every 24 hour period.

i. Drill to Prevent Accidental Fratricide. Being in MOPP with restricted hearing and vision makes people jumpy. They are more likely to shoot without clearly identifying or challenging the target. The rate of accidentally killing one's own side can rise alarmingly. Leaders are at special risk, they must move around more to maintain unit cohesion and control; they tend to get tired and careless. Drill relentlessly at target coordination and sign/countersign procedures.

7-24. Individual Responsibilities

a. Follow Orders. By following orders, individuals can increase their ability to cope with and prevent combat stress-related conditions. Survival on the battlefield depends on each individual's ability to cope with stressful situations. Coping with the stresses of an NBC environment requires extra individual action. Concentrate on the positive aspects of survival, not the negatives of illness or death. Leaders cannot perform this role for soldiers.

b. Train. Use every opportunity to train while wearing the protective mask and the entire MOPP ensemble, when permitted. You build self-confidence and endurance by frequent training with your protective mask, or at MOPP Level 4.

c. Use Buddy System. Using the buddy system increases each soldier's ability to survive. Soldiers looking out for each other give a sense of security that relieves stress. Looking out for each other improves every individuals' ability to perform his duties.

7-25. Mental Health Personnel/Combat Stress Control Responsibilities

a. Staffing for Combat Stress Control. Combat stress control is provided by the following activities or units:

- Division Mental Health Section.
- Area Support Medical Battalion Mental Health Section.
- The Neuropsychiatric Ward and Consultation Service of each CSH, Field Hospital, and General Hospital.
- Medical Detachment, CSC.
- Medical Company, CSC.

b. Conduct Preventive Activities.

(1) Prevention is the most economical means of controlling combat stress reactions; not only for the line Army's mission, but also for the HSS mission. In an NBC environment, this is even more critical. Personnel must begin consultation services before NBC weapons/agents have been employed. Contact and rapport with the consultees before action begins increases the

probability of preventing numerous stress reaction cases. The best method of conducting consultation is one-on-one in the individual's duty area. Each session should be brief, but thorough; the individual should leave the session feeling that he has been helped. In some instances group sessions will be adequate to prepare personnel for expected times of stress. Successful consultation depends upon trust and familiarity between the consultant and consultee.

(2) For a successful preventive program, unit leaders must be included in the program. Leaders require as much assistance as do individual soldiers.

(3) When the mission permits, attend social functions of the supported units. Go running with them periodically.

(4) Conduct briefings, classes, and (best of all) practical exercises in topics such as—

- Combat stress/battle fatigue recognition and management (adjusted to the branch, rank, and duties of the audience).
- Stress management and relaxation techniques.
- Sustaining performance in continuous and sustained operations.
- Psychological aspects of NBC defense.
- Building unit cohesion.

(5) Deploy with the unit on field training exercises and training center rotations. Actively participate in all unit NBC or MOPP training.

(6) Use scheduled gas chamber exercises and predeployment protective mask tests as an opportunity to introduce yourself to all unit members; also to reinforce stress control training, Assist any soldier that is having mask claustrophobia to master it. Ensure that unit leaders use the chamber to build confidence in the training and protective equipment.

(7) Monitor indicators of excessive stress in units. Actions and activities that indicate stress problems in a units include—

- Increased disciplinary actions.
- Suicide gestures/attempts/completions.
- Threat and fratricide actions against leaders, or unit members.
- Homicides.
- Alcohol and drug abuse.
- Sources of information include, but are not limited to, the supporting MTF, PVNTMED section/teams, chaplain, and military police.

c. Control Stress Reactions. Combat stress requires proper management. The evaluation of overstressed soldiers is difficult but not impossible when both the soldier and the evaluator are in

MOPP. The primary method of mental health evaluation is the interview and mental status examination. Problems associated with monitoring vital signs and doing a physical assessment to determine organic injuries or illnesses in MOPP are discussed elsewhere in this manual. Distinguishing between organic and functional conditions is especially critical and problematic in NBC situations. Table 7-1 provides signs and symptoms of combat stress. One early sign of stress is a notable reluctance of a soldier to leave a secure setting. Example: The last soldier in a column continually looking over his shoulder toward the safe area; he constantly checks and rechecks his equipment and has difficulty understanding instructions. Over time, affected soldiers may become incapable of action even during danger; they may exhibit tics, trembling, shaking, and even unresponsiveness which may be mistaken for true epileptic or nerve agent poisoning seizures. These reactions can also resolve rapidly. If rapid recovery does not occur following treatment in the field, the presence of a more severe psychiatric condition should be suspected.

Table 7-1. Acute Combat Reactions

SIGNS AND SYMPTOMS

RELUCTANCE TO LEAVE A SECURE SETTING
 UNCONTROLLED BODY MOVEMENTS
 DIFFICULTY COMPREHENDING AND FOLLOWING INSTRUCTIONS
 SYMPATHETIC NERVOUS SYSTEM AGITATED
 LIFE-THREATENING BEHAVIORS
 POSSIBLE OVERFLOW OF MOTOR ACTIVITY
 POSSIBLE PARALYSIS
 OVERWHELMING FEAR

ENVIRONMENTAL

FATIGUE, HUNGER, COLD, HEAT, AND SLEEP DEPRIVATION
 INTENSITY OF THE BATTLE
 DISORIENTATION
 SURPRISE

INTERPERSONAL

LACK OF UNIT COHESION AND ESPRIT
 LACK OF LEADERSHIP
 CONFUSION
 SUPPORT ASSIGNMENT VERSUS FRONT LINE

PERSONAL

AGE
 INEXPERIENCE
 LACK OF COMMITMENT TO BATTLE
 WITNESSING DEATH FOR FIRST TIME

Section VI. HEALTH SERVICE LOGISTICS

7-26. General

The protection of medical supplies and equipment on the integrated battlefield is a must. The HSS system will grind to a halt without these supplies. The flow of supplies must continue to forward units as they are requested, including during NBC operations.

7-27. Protection of Supplies in Storage

The protection of supplies can be accomplished by placing them under tents, using plastic wraps or providing storage warehouses with CB filtered-conditioned (heated or cooled) air systems. Wrapping supplies in two layers of plastic material provides protection from most agents for a short period of time; the thicker the plastic material the longer the protection. Protection from the thermal and blast effects of nuclear detonations requires much more elaborate measures. Placing the supplies in trenches, inside earthen berms, behind stone walls, or in other field expedient facilities will enhance the protective posture of supplies from the nuclear effects.

7-28. Protection of Supplies During Shipment

During shipment, supplies are protected by placement inside MILVANS or container express (CONEX), in covered enclosed vehicles, wrapping them in several layers of plastic, in tarpaulins, or other protective material. To monitor exposure of supplies to chemical agents during shipment, place M9 detector paper between the wrappings. If exposure is limited to the outer layer, simple removal of this layer may be all that is required to eliminate the contamination.

7-29. Organizational Maintenance

Maintenance on vehicles, equipment, and biomedical equipment will provide a challenge to HSS personnel. Most chemical agents are soluble in organic solvents such as gasoline, motor oils, and lubricants. The agent may be removed from the equipment by these solvents, but exposure to the contaminated solvents will produce the same effects as exposure to the agent on the equipment. The agents may seep down around the threads of bolts, in cracks and crevices of the equipment, and inside the cabinets or enclosures of equipment. These potential contamination sources produce an increased hazard to maintenance personnel. Decontamination of some items, especially biomedical equipment, may be a problem for maintenance personnel. The use of standard decontamination agents will cause damage beyond repair to most biomedical equipment and electronic equipment. In some instances, removal of chemical agents will require aging (off-gassing) of the agent. Turning the equipment on and running it, or just exposing the equipment to warm air will speed the off-gassing process. Maintenance personnel must perform all procedures in MOPP Level 4 until decontamination is completed.