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MARINE CORPS MCRP 4-11.1C

FIELD MANUAL

TREATMENT OF BIOLOGICAL WARFARE AGENT CASUALTIES

HEADQUARTERS, DEPARTMENTS OF THE ARMY, THE NAVY, AND THE AIR FORCE, AND COMMANDANT, MARINE CORPS

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- When was the sample/specimen collected?
- Who has maintained custody of the sample/specimen?
- What has been done with the sample/specimen at each change of custody?

CAUTION

Each change of custody must be recorded with date and time of change.

b. The samples/specimens must be appropriately packaged, labeled, and evacuated to the designated laboratory for confirmation of a BW attack. The standard chain of custody for sample/specimen evacuation is as follows:

- Sampling unit.
- Unit S2 (Intelligence Officer [US Army]), medical operations officer, or other designated person.
- Technical escort unit or other command-designated escort personnel.
- In-theater supporting medical laboratory, if in operation.
- Continental US laboratory.

1-12. Identification Methods for Biological Warfare Agents

The following are identification methods for BW agents:

- Isolation of the etiologic agent by culture (possible in one to two days for some agents).
- Detection of agents by enzyme immunoassay, mass spectrometry, animal inoculation, or other methods.
- Antibody detection (specific immunoglobulin [IgM] may appear within 3 days).
- Genome detection by PCR.
- Detection of metabolic products of the infectious or toxic agent in clinical specimens.

1-13. Therapy

★ *a. Endemic Disease versus Biological Agent.* Specific therapies are discussed for each agent. Most of these are based on standard treatment guidelines. However, some of the prophylaxis regimens and therapies recommended in this manual vary from those found in standard references and may include off-label indications. This is because—

- A BW exposure (aerosol) may produce a disease with clinical features different from the naturally occurring disease. For example, inhalation (BW) versus cutaneous (endemic) anthrax. Cases of endemic disease due to inhalation of some of these agents are rare and clinical experience is limited. Human challenge studies can be done with only a limited number of agents for obvious ethical and safety reasons. Accordingly, some of the prophylactic and treatment regimens have been developed from in vitro studies, animal models, and limited human data.
- An adversary may develop a BW agent resistant to the standard antibiotic therapy.

b. Endemic Disease Therapy. For endemic and epidemic disease therapies, see FM 8-33 and the civilian textbooks listed in the references.

1-14. Case Reporting and Epidemiological Assessment

It is imperative that clinicians report cases of suspected BW-related illnesses to the appropriate line and medical chains of command. Prompt epidemiological investigations must begin and preventive measures implemented to control the disease or reduce the number of cases.

★ 1-15. Prevention

Most morbidity and mortality from BW threat agents is preventable. Immunizations, pre-exposure chemoprophylaxes, post-exposure chemoprophylaxes, and protective clothing are available to provide protection. Personnel must have all required immunizations administered prior to entering an AO where BW agent employment is a threat. All immunizations should be administered in sufficient time to provide the initial protection before troops are deployed to the AO; when administration prior to deployment is impossible, troops must receive the immunizations as soon as the mission permits in the AO. Some immunizations are used in conjunction with pre-exposure chemoprophylaxes or post-exposure chemoprophylaxes to provide protection. The supporting PHS/PVNTMED units/staffs can assist commanders in determining which specific immunizations and chemoprophylaxes are required for the AO. The corps/division/wing/equivalent service/joint task force commander will decide whether to begin, continue, or discontinue the administration of chemoprophylaxes based on the BW threat. The intelligence officer, chemical officer, and surgeon advise the commander on appropriate courses of action. For those BW agents that a specific immunization is not available, the use of protective equipment combined with chemoprophylaxes may be employed to provide protection.

a. Active Immunization. As of January 1999, vaccines are available for the following potential BW agent threats:

- Anthrax.
- *Argentine hemorrhagic fever.