

**Change 141**  
**Manual of the Medical Department**  
**U.S. Navy**  
**NAVMED P-117**

**8 Jun 2012**

To: Holders of the Manual of the Medical Department

1. **This Change** completely revises Chapter 22, Preventive Medicine and Occupational Health.
2. **Summary of Changes**. The structure of the chapter has been preserved, and the same sections covered with slightly edited names, but the content has been completely reviewed by subject matter experts at the Navy and Marine Corps Public Health Center and altered as necessary to be consistent with the current science and practice of Preventive Medicine. The overall responsibilities and functions have not been significantly altered. References have been reviewed, updated, new ones added, and old ones removed. The Occupational Surveys section has been renamed Industrial Hygiene and an extensive section on Occupational Audiology has been added.
3. **Action**
  - a. Remove entire Chapter 22 and replace with new Chapter 22.
  - b. Record this Change 141 in the Record of Page Changes.



M. L. NATHAN  
Chief, Bureau of  
Medicine and Surgery



# Chapter 22

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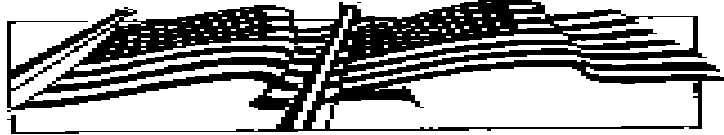
## Preventive Medicine and Occupational Health

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## Chapter 22

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## Section I GENERAL

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### **22-1**

#### **Scope**

(1) The fields of preventive and occupational medicine extend into activities under the cognizance of offices and commands of the Department of the Navy, where there are conditions which affect the health of Navy and Marine Corps personnel.

(2) Instructions are issued by the Bureau of Medicine and Surgery (BUMED), commanders, commanding officers, and officers in charge concerning provisions of preventive medicine affecting administrative and military functions.

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### **22-2**

#### **Responsibilities**

(1) The Medical Officer (MO) and/or Senior Medical Department Representative (SMDR) is responsible for establishing health standards and for recommending to the commander, commanding officer, and officer in charge the application of such measures as may be necessary to maintain the health of the command.

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### **22-3**

#### *Procedures*

(1) The MO and/or SMDR shall adhere to any procedures issued by a superior authority. When no instructions have been issued by proper superior authority, the MO shall propose measures and formally present them to the commander, commanding officer, or officer in charge for consideration and adoption as may be necessary.

(2) Requests for technical advice, surveys, or investigations may be forwarded via appropriate channels (usually via the cognizant regional Navy Environmental and Preventive Medicine Unit (NEPMU)) to the Navy and Marine Corps Public Health Center (NMCPHC) or another suitable command main-

taining environmental health officers, industrial hygiene officers, radiation health officers, occupational audiologists, occupational optometrists, preventive medicine physicians, occupational medicine physicians, and preventive medicine technicians on staff.

**NO REFERENCES USED IN THIS SECTION**

## Section II

# ENVIRONMENTAL HEALTH

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## 22-4      Environmental Health

(1) *The cognizant medical authority shall be responsible for the following:*

(a) Inspection, investigation, recommendation, and supervision of all matters pertaining to public health aspects of environmental hazards: swimming pools, air quality, lead, mold, heat stress, environmental toxins, and other elements of the environment affecting health and keeping the commander, commanding officer, and officer in charge informed in these matters.

(b) Indoctrination of ship, station, or activity personnel in the latest

advances in sanitary science and preventive medicine, including accident prevention and industrial health.

(c) Cooperation with civilian personnel and governmental agencies associated with health problems that may impact Navy and Marine Corps personnel, both active duty and civilians, on board or in the immediate vicinity of stations or activities.

(d) Keeping records of inspections and follow-up assessments, technical assist visits, investigations, and recommendations.

(e) Preparing and tracking local reports as requested by the commander, commanding officer, or officer in charge.

### REFERENCE USED IN THIS SECTION

Ref: (a) NAVMED P-5010, Manual of Naval Preventive Medicine, Chapter 4, Swimming Pools and Bathing Places

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## Section III

# SANITARY STANDARDS FOR LIVING AND RECREATIONAL SPACES

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## **22-5 Living Spaces and Related Facilities**

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(1) The cognizant medical authority, normally the Preventive Medicine Authority (PMA) when assigned, shall make routine inspections and prepare reports as required in reference (a) to maintain Navy standards of sanitation of living spaces and related facilities.

(2) To determine the recommended minimum proportions of plumbing fixtures to the number of personnel to be accommodated refer to appendix A of reference (b).

(3) When situations occur that may require deviation from the above criteria, consult with the PMA (most often the cognizant regional NEPMU) within your area of responsibility (AOR).

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**22-6** Berthing Spaces and  
Sanitary Facilities Afloat

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(1) The cognizant medical authority, normally the PMA when assigned, shall make routine inspections and prepare reports as required in references (a) and (c) to maintain Navy standards of sanitation of living spaces and related facilities.

(2) To determine the recommended minimum proportions of plumbing fixtures to the number of personnel to be accommodated, refer to reference (c).

(3) When situations occur that may require deviation from the above criteria, consult with the PMA within your AOR.

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**22-7** Hospital and  
Medical Facilities

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(1) The cognizant medical authority, normally the PMA when assigned, shall determine frequency of inspections of medical facilities.

(2) To determine the recommended minimum construction standards for hospital and medical facilities, refer to reference (d).

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**22-8** Confinement Facilities  
Ashore and Afloat

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(1) The cognizant medical authority, normally the PMA when assigned, shall make routine inspections and prepare reports as required in reference (a), section I, article 2-10 and references (e) and (f) to maintain Navy standards.

(a) *Afloat*. Prior to operating as an authorized naval place of confinement, a ship's brig, included in the original construction or added during an authorized conversion, shall be inspected as required by article 2201.3 of reference (e) and certified if it meets criteria therein, by the Echelon II/III command. Habitability requirements are laid out in chapter 2, article 2015 of reference (f). Alterations to a ship's brig require approval of the type commander, Echelon II/III command, and Naval Personnel Command (PERS-68).

(b) *Ashore*. The cognizant medical authority, normally the PMA when assigned, shall make routine inspections and prepare reports as required by reference (a), section I, article 2-10 and references (e) and (f), to maintain Navy standards.

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**22-9****Swimming Sites**

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(1) The MO or Medical Department Representatives (MDRs) shall make appropriate recommendations to the commander, commanding officer, or officer in charge concerning health and safety issues and requirements to be observed in and around swimming sites, daily pool water field surveillance (i.e.,

chlorine residual and pH testing, and routine pool water bacteriological analysis), and prohibition of swimming in polluted or contaminated waters.

(2) The responsible PMA should review all plans for new and renovated pools and natural bathing areas. Reference (a) establishes swimming, bathing, and water training public health requirements.

**REFERENCES USED IN THIS SECTION**

- Ref: (a) NAVMED P-5010, Manual of Naval Preventive Medicine, Chapter 2, Section 1, Sanitation of Living Spaces and Related Service Facilities  
(b) Unified Facilities Criteria (UFC) 3-420-01, Design Plumbing Systems  
(c) OPNAVINST 9640.1 series, Shipboard Habitability Program  
(d) UFC 4-510-01, Medical Military Facilities  
(e) SECNAVINST 1640.9 series, Department of the Navy Corrections Manual  
(f) OPNAVINST 1640.9 series, Guide for the Operation and Administration of Detention Facilities

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## Section IV

# FOOD AND WATER SAFETY

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## 22-10

### Food

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(1) *The MO or MDR is charged with the following responsibilities:*

(a) Make frequent food-related safety inspections of food storage, preparation, and service; assist with installation food vulnerability assessments; and make appropriate recommendations to the commander, commanding officer, or officer in charge. The Type Commander (TYCOM) or AOR surgeon may designate more stringent requirements due to the operational environment.

(b) Ensure compliance of the food safety policies in accordance with reference (a).

(2) *The MO or MDR shall also:*

(a) Ensure that all foods are prepared in clean surroundings by personnel free of communicable diseases and open lesions of any exposed skin.

(b) Ensure that all potentially hazardous foods as described in reference (a) are received, held, prepared, cooked, served, and stored in accordance with reference (a). Specific temperature control requirements can be found in section 3 of reference (a).

(c) The MDR shall certify the acceptability of food and potable water in the event of a chemical, biological, or radiological (CBR) incident. The MDR shall consult reference (b) for guidance in matters of food recovery in cases of fire, flooding, or after a CBR incident.

(d) Ensure that food service and specific medical personnel are trained in basic food safety principles and practices as required in references (a) and (c).

**22-11****Water**

(1) The Medical Department is charged with advising and making recommendations to ensure a safe supply of potable water. The MDR shall make special inspections of potable water systems in coordination with environmental, engineering, and public works personnel. Drinking water systems shall be operated in accordance with Federal, State, and local laws and rules and follow current naval policy. Overseas drinking water systems shall comply with Final Governing Standards, Department of Defense (DoD), and naval policy. In the event of an acute

shortage of water, the commander, commanding officer, or officer in charge shall be advised relative to the rationing of water.

(2) In determining the potability of water, the MDR will be guided by references (d) through (f).

(3) For purification of water in the field, refer to reference (f).

(4) Reference (g) provides direction for operation of shipboard potable water supply plants. Reference (h) provides operation policy for installation drinking water systems.

**REFERENCES USED IN THIS SECTION**

- Ref: (a) NAVMED P-5010, Manual of Naval Preventive Medicine, Chapter 1, Food Safety  
 (b) NAVSUP P-486, Naval Supply Systems Command Manual, Food\ Service Management  
 (c) OPNAVINST 4061.4/MCO 4061.1 series, Food Safety Training Program  
 (d) NAVMED P-5010, Manual of Naval Preventive Medicine, Chapter 5, Water Supply Ashore  
 (e) NAVMED P-5010, Manual of Naval Preventive Medicine, Chapter 6, Water Supply Afloat  
 (f) TB MED 577/NAVMED P-5010-10/AFMAN 48-138\_IP, Sanitary Control and Surveillance of Field Water Supplies  
 (g) NSTM Chapter 533, Potable Water Systems (NOTAL)  
 (h) OPNAVINST 5090.1 Series, Environmental Readiness Program Manual, Chapter 10, Safe Drinking Water Act Compliance Ashore

**Section V**

**GARBAGE, REFUSE, SEWAGE  
DISPOSAL, AND MEDICAL  
WASTE MANAGEMENT**

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**22-12**

**Solid Waste  
Management**

(1) The MO or MDR shall make periodic inspections to ensure proper facility sanitation and adequate frequency of solid waste management. Reference (a) establishes requirements for operation of shipboard sewage systems and physical and chemical environmental standards aboard ship.

(2) Reference (a), Chapter 21, sets forth policy for overseas environmental compliance ashore, and Chapter 22 provides policy for environmental compliance afloat. For a summary of discharge restrictions for solid waste see figure 22-1 of reference (a).

**22-13**

**Sewage  
Disposal**

(1) The MO or MDR shall conduct periodic inspections and give recommendations as applicable to the commander, commanding officer, or officer in charge for the sanitary disposal of sewage. Navy policy on sewage disposal for vessels is also stated in reference (a). A summary of discharge restrictions for sewage, gray water, and oily waste can be found on figure 22-1 of reference (a).

(2) Reference (b) provides additional pollution control requirements for naval vessels, including wastewater disposal. Reference (c) provides general public health guidance with respect to wastewater treatment and disposal.

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**22-14****Medical Waste  
Management**

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(1) The MO and MDR also must be knowledgeable of naval policy governing management of medical waste for healthcare facilities ashore and aboard Navy ships as well as be capable of implementing and managing a medical surveillance program that incorporates occupational health requirements associated with occupational exposures to blood-borne pathogens.

(2) Refer to reference (d) for guidance on medical waste management in medical and dental treatment facilities and for waste management guidelines afloat, refer to reference (a) and (e). Although not all inclusive, reference (f) provides guidance on exposure control, engineering and work practice controls, personal protective equipment (PPE), and medical surveillance requirements including prophylaxis and physical examinations as applicable.

**REFERENCES USED IN THIS SECTION**

- Ref: (a) OPNAVINST 5090.1 series, Environmental Readiness Program Manual  
(b) NSTM, Chapter 593, Pollution Control (NOTAL)  
(c) NAVMED P-5010, Manual of Naval Preventive Medicine, Chapter 7, Wastewater Treatment and Disposal, Ashore and Afloat  
(d) BUMEDINST 6280.1 series, Management of Infectious Waste  
(e) OPNAVINST P-45-113-3-99, Afloat Medical Waste Management Guide  
(f) 5 CFR 1910.1030, Occupational Exposure to Bloodborne Pathogens



## Section VI

# COMMUNICABLE DISEASE CONTROL

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## 22-15

### General

(1) The prevention and control of communicable diseases are conducted according to policies, directives, instructions, and orders from the Chief, BUMED/Navy Surgeon General, the Service Chiefs, and the local Combatant Commanders.

(2) MOs and SMDRs are responsible to ensure communicable disease prevention and control by:

(a) Identifying potential disease threats based on epidemiological information, medical intelligence, and knowledge of military activities.

(b) Prevention of communicable disease, when possible, to include recommendations of individual protective measures, environmental control measures, and appropriate immunizations administered in accordance with reference (a).

(c) Early detection by monitoring the health of supported individuals and units, and surveillance of the environment, as directed, where the threat of serious disease is present.

(d) Proper treatment when preventive measures are not successful.

(e) Reporting of applicable diseases as directed by reference (b).

(f) Investigation of suspected disease outbreaks or disease occurrences capable of adversely affecting unit effectiveness or readiness in accordance with reference (b). This includes follow-up of suspected cases and case contact investigation, treatment, and other subsequent follow-ups as appropriate.

(g) Ensuring continued training of Medical Department personnel to ensure proper and timely identification and treatment of communicable diseases.

(3) Medical Department personnel shall recommend to the commander, commanding officer, or officer in charge measures to prevent the spread of communicable disease. Such measures may include appropriate pre-cautions and/or isolation of the patient(s) for the period of infectivity.

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## **22-16**

### **Support**

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(1) NEPMUs have personnel who are knowledgeable about communicable diseases within their AOR and have the capability to investigate outbreaks of disease that are beyond the local Medical Department's capability.

(2) For assistance with controlling and investigating disease outbreaks consult with the regional NEPMU. Appendix D of reference (b) provides contact information for NEPMUs.

(3) When conducting a contact investigation of an active tuberculosis case, consult with the regional NEPMU in accordance with reference (c).

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## **22-17**

### **Source Material**

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(1) The regional NEPMUs and the NMCPHC are potential sources of information in difficult or unusual circumstances. The NMCPHC maintains a staff of experts in military public health policy and may be consulted about applicable directives or guidance for controlling specific diseases.

(2) Fleet and other Fleet Marine Force (FMF) Units deploying to remote locations should request information from the area NEPMU. This unit has its own sources of information as well as access to computerized data banks maintained by the National Center for Medical Intelligence (NCMI). Information may be requested by message with the appropriate security classification. Additionally, reference (d), a Web site maintained by NCMI, contains medical intelligence for various global regions and countries.

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## **22-18**

### **Special Programs**

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(1) *Sexually Transmitted Diseases (STDs)*. The control of STDs begins with changing the behaviors that put an individual at risk. Medical Department personnel must assess risk and provide education to patients regarding STDs. Medical Department personnel are to be concerned with the medical aspects of STDs and their control consistent with the basic policy as outlined in reference (e).

(a) Education is a primary tool in prevention of STDs. NMCPHC maintains a Sexual Health and Responsibility Program (SHARP) that includes health information, educational materials, and behavioral change programs. Additionally, multiple education resources are available under the Sexual Health tab of reference (f). Medical Department personnel shall assist in this program when requested. They also shall provide special instruction to those persons who have been treated for an STD.

(b) Diagnosis, treatment, administrative procedures, and basic information can be found in references (b) and (e). The most recent official changes in policy, therapy, etc., can be found in the Department of Navy directives standard subject identification codes 6200-6299. However, directives in additional code groups may also apply. NMCPHC maintains a staff of experts in military public health policy and may be consulted about applicable directives or guidance.

(2) Tuberculosis, Human Immunodeficiency Virus (HIV), rabies, streptococcus in recruits, and malaria are all the subject of individual instructions due to their potential for prolonged

morbidity, communicability, and the impact on the readiness of the Operating Forces. The instructions address not only diagnosis and treatment, but also specific procedures for identifying infected individuals, prophylaxis, and reporting requirements. Reference (c) and references (g) through (j) address the above specific diseases.

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## 22-19

### Reports

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(1) **General.** Medical Department personnel are responsible for the timely preparation and submission of routine reports and notices concerning the presence of communicable disease and other matters in the field of preventive medicine. General reporting requirements can be found in reference (b) and MANMED chapter 23, Reports, Forms, and Records. Additionally, requirements dealing with specific diseases also may be cited in the applicable BUMED instruction or notice.

(2) **Medical Event Reports.** Communicable diseases of military significance may require expeditious reporting. These diseases are enumerated and the manner and format of reporting are described in reference (b).

(3) *Cooperation with Other Agencies.* Medical Department personnel shall cooperate with Federal, State, and local health agencies, and other civil authorities in the prevention, control, and reporting of communicable diseases. All persons released from active duty based on an infectious/contagious disease, considered to be a potential hazard to the health of the population, shall be reported. Such reports shall be made to

the health department of the State where the Service member prospectively resides and is being released from active duty. The report, in letter form with duplicate attached, shall include only the following information: name, prospective place of residence (address), diagnosis, date of discharge, and place of discharge. The report shall emphasize that the information given is confidential.

#### REFERENCES USED IN THIS SECTION

- Ref:
- (a) BUMEDINST 6230.15 series, Immunizations and Chemoprophylaxis
  - (b) NMCPHC-TM-PM 6220, Medical Surveillance and Medical Event Reporting
  - (c) BUMEDINST 6224.8 series, Tuberculosis Control Program
  - (d) National Center for Medical Intelligence Web site
  - (e) BUMEDINST 6222.10 series, Prevention and Management of Sexually Transmitted Diseases
  - (f) Navy and Marine Corps Public Health Center (NMCPHC) Healthy Living Web site
  - (g) BUMEDINST 6220.13 series, Rabies Prevention and Control
  - (h) SECNAVINST 5300.30 series, Management of Human Immunodeficiency Virus (HIV) in the Navy and Marine Corps
  - (i) BUMEDINST 6220.8 series, Recruit Streptococcal Infection Prevention Program
  - (j) BUMEDINST 6230.2 series, Malaria Prevention and Control

## Section VII IMMUNIZATION

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### **22-20                      Regulations**

(1) Immunization programs for Department of Navy (DON) personnel, their dependents, and eligible civilians shall be administered in accordance with reference (a).

(2) Chapter 3 of reference (a) addresses military and civilian personnel required to be immunized, and chapter 4 of reference (a) provides specific disease immunization requirements for DoD personnel.

**REFERENCE USED IN THIS SECTION**

Ref: (a) BUMEDINST 6230.15 series, Immunizations and Chemoprophylaxis

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## Section VIII

### INSECT, PEST, AND RODENT CONTROL

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## **22-21**

### **Control of Disease Vectors and Pests Health, Morale, and Habitability**

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(1) The MO, in concert with the public works officer or entomologist, as applicable, shall formulate plans and methods for the control of disease vectors and pests detrimental to health, morale, and habitability of shore activities and shall make recommendations to the commander, commanding officer, or officer in charge regarding steps to be taken to this end. The number of officers trained in insect and pest control (entomologists) will generally be small; therefore, the services of such officers must be used on an area-wide basis to afford adequate protection to all naval facilities.

(2) In accordance with paragraph 8b of reference (a) and section 1, article 8-3 of reference (b), the Medical Department will be responsible for the following:

(a) Inspections and surveys to determine the species, source, location, and density of vectors.

(b) Recommendations relating to sanitation standards and practices effecting the presence and abundance of vectors and utilization of vector control methods.

(c) Regular communication with the Contracting Officer in the Public Works Department that oversees the facility Pest Management Plan and manages the base pest control contract(s).

(d) Evaluation of the effectiveness of vector control measures.

(e) Inspections and recommendations to ensure that pesticides are used safely in accordance with current directives.

(f) Provision of information on all applicable personal protective measures against vectors.

(g) Coordination with civilian and other government agencies having vector control problems that may affect naval personnel at or in the vicinity of a command.

(h) Compliance with all applicable public health quarantine measures.

(3) The Medical Department may be additionally charged by the commander, commanding officer, or officer in charge with the responsibility for all operational phases of vector control programs as follows:

(a) In the event of a vector-borne disease outbreak.

(b) In the absence of a Public Works Department (e.g., at certain shore installations, on board ships, and with troops in the field).

(c) In the control of vectors actually infesting humans (e.g., lice, mites).

(d) In disasters.

**REFERENCES USED IN THIS SECTION**

- Ref: (a) OPNAVINST 6250.4 series, Pest Management Programs  
(b) NAVMED P-5010, Manual of Naval Preventive Medicine, Chapter 8, Navy Entomology and Pest Control Technology



## Section IX QUARANTINE PROCEDURES

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22-28 <b>Transfer of Pathogenic Cultures and Organisms</b>	22-25

### **22-22**

#### **General**

(1) Quarantine regulations are intended to prevent the introduction and dissemination, domestically or elsewhere, of diseases of humans, plants, and animals, prohibited or illegally taken wildlife, arthropod vectors, and pests of health and agricultural importance. Basic regulations and detailed instructions concerning such procedures are found in reference (a).

(2) The Navy has issued guidance on the implementation of reference (b), article 39, the Ship Sanitation Certificate Program. Reference (c) describes procedures for the implementation of the Shipboard Sanitation Certificate Program and the proper use of the Maritime Declaration of Health, as mandated by reference (b). This certificate or declaration may be required to be submitted to a foreign port authority upon request.

(3) The DoD Executive Agent for the DoD Border Customs and Clearance Program is the United States Transportation Command (USTRANSCOM), in accordance with reference (d). To this end, USTRANSCOM has described procedures for agricultural inspection and clearance in part V of reference (e). Additional instructions are published periodically and may be found in current, official naval publications.

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**22-23****Responsibilities  
of the Medical  
Department**

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(1) The Medical Department, ashore or afloat, must be well informed concerning current naval quarantine regulations and instructions, to advise and make timely recommendations to commanders, commanding officers, or officers in charge for ensuring compliance with these regulations, and to recommend the issuance of additional or special quarantine measures when necessary.

(2) As regulations differ from port to port, medical officers serving aboard naval vessels shall endeavor to determine in advance the quarantine regulations and requirements of each port in which entry is contemplated in order to ensure full compliance and to minimize delay. In accordance with reference (c), ships must be prepared to provide officials at foreign ports a copy of the Shipboard Sanitation Control/Exemption Certificate and the Maritime Declaration of Health. Guidance for agricultural quarantine is available in reference (e). Agricultural cleaning and inspections, commonly referred to as

agricultural wash-downs, are no longer a preventive medicine responsibility. In accordance with reference (e), logisticians at the Combatant Commander level must coordinate pre-inspections of all equipment and supplies that were used Outside the Continental United States (OCONUS) with representatives of the Army Provost Marshall's Office.

(3) Each ship is to designate a quarantine representative. This responsibility is very often delegated to a member of the Medical Department. Responsibilities associated with this delegation of authority ensure that the crew adheres to regulations regarding movement of quarantinable personal property, including but not limited to plant materials and animal hides, into the United States or foreign countries. Staff medical officers of each command of the naval establishment having such quarantine responsibilities shall affect and maintain close liaison with the local quarantine officer of responsible agencies.

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**22-24****Quarantine  
Authority and  
Responsibility**

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(1) Quarantine authority and responsibility is vested in the Departments of Homeland Security; Health and Human Services; Agriculture; Treasury; Interior; and Commerce. The agencies specifically tasked with quarantine responsibilities include the Plant Protection and Quarantine Programs and Veterinary Services of the Animal and Plant Health Inspection Service under the jurisdiction of the Departments of Homeland Security and Agriculture,

Bureau of Sport Fisheries and Wildlife in the Department of the Interior; the Customs Service of the Treasury Department; and the Public Health Service of the Department of Health and Human Services.

(2) The quarantine requirements of United States territories and foreign countries must be complied with in all instances. Commanders, commanding officers, and officers in charge should maintain liaison with local national quarantine authorities in order that they may cooperate in their enforcement efforts.

(3) In naval establishments outside the United States, its territories, and possessions, where neither Federal nor other civil authority has quarantine jurisdiction, or does not exercise such jurisdiction, the full responsibility for quarantine conveys to the Navy area or base commander. Refer to pages 22-23 of reference (b) for more detail.

(4) For further information on quarantine authority and responsibility refer to references (a) through (c).

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## 22-25

### Quarantinable and Communicable Diseases

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(1) *Disease Subject to Quarantine.* By international agreement, the following are classified as quarantinable:

(a) Cholera (incubation period 2 hours to 5 days), reference (f).

(b) Diphtheria (incubation period 2 to 5 days), reference (f).

(c) Infectious Tuberculosis (incubation period widely variable and age dependent. First 5 years most frequent, however 40+ years still possible), reference (f).

(d) Plague (incubation period 3-7 days), reference (f).

(e) Smallpox (incubation period 12-14 days), reference (f).

(f) Yellow Fever (incubation period 3-6 days), reference (f).

(g) Viral Hemorrhagic fevers:

(1) Crimean-Congo South American (incubation period from tick bite 1-3 days with maximum of 9 days; incubation period from contact with infected blood or tissues 5-6 days with maximum of 13 days), reference (f).

(2) Ebola (incubation period 2-21 days), reference (f).

(3) Lassa (incubation period 6-21 days), reference (f).

(4) Marburg (incubation period 3-9 days), reference (f).

(h) Severe Acute Respiratory Syndrome (SARS) (incubation period is 5 days with a range of 2-10 days), reference (f).

(i) Influenza caused by novel or reemerging influenza viruses that are causing, or have the potential to cause, a pandemic (incubation period 2 days), reference (f).

(2) *The list of quarantinable diseases is subject to change.* A disease that is classified by the World Health Organization (WHO) as quarantinable will be considered quarantinable by Navy personnel. Reference (f) provides the most current information.

(3) *Communicable Diseases.* While emphasis is placed on measures to prevent the dissemination of quarantinable diseases, the Medical Department is charged equally with the responsibility of recommending measures to prevent the dissemination of communicable diseases other than those classified as quarantinable both within and among naval establishments and civilian communities. Refer to Communicable Disease Control, section VI of this chapter.

(b) Navy Preventive Medicine Technicians (PMT); Navy Enlisted Classification (NEC) 8432; and other personnel specifically approved by the Navy Medicine Professional Development Center (NAVMED PDC), are qualified to inspect and issue a Ship Sanitation Certificate.

(c) Foreign inspectors shall neither inspect nor board naval vessels.

(d) Deployed ships also may obtain Ship Sanitation Certificate inspection assistance from another United States Navy vessel where a PMT is assigned as ship's company.

(e) A Ship Sanitation Certificate is valid for 6 months. A one time, 1 month extension may be issued in accordance with reference (c).

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## 22-26

### International Environmental Health Considerations

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(1) Ship Sanitation Certificates have replaced deratization (DERAT) or DERAT Exemption Certificates per reference (c).

(a) Reference (b), International health regulations, requires naval vessels to maintain a valid Ship Sanitation Certificate. A valid Ship Sanitation Certificate may be required by foreign port authorities for vessels entering port.

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## 22-27

### Disinsectization

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(1) Regulations governing disinsectization of vessels and aircraft are issued by the Public Health Service of the Department of Health and Human Services. Reference (g) provides guidance on shipboard pest management while disinsectization training and certification procedures are outlined in reference (h).

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**22-28****Transfer of  
Pathogenic  
Cultures and  
Organisms**

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(1) Extant regulations governing importation and transfer of etiological agents of disease are found in references (a) and (i) and section IX, article 8-56 of reference (g).

(2) Shipments by United States mail must comply with the Centers for Disease Control and Prevention/United States Public Health Service (CDC/USPHS) requirements and obtain a CDC-USPHS permit or Letter of Authorization for the importation of etiologic agents and vectors of human diseases. Refer to paragraphs 9d(2) and 11 of reference (a).

**REFERENCES USED IN THIS SECTION**

- Ref: (a) OPNAVINST 6210.2 series, Quarantine Regulations of the Navy  
(b) World Health Organization (WHO), International Health Regulations (2005)  
(c) BUMEDNOTE 6210, Ship Sanitation Certificate Program  
(d) DoD Directive 4500.09E, Transportation and Traffic Management  
(e) Defense Transportation Regulation 4500.9-R, Part V, Border Customs and Clearance  
(f) WHO, Programmes and projects, Media Centre, Fact Sheets  
(g) NAVMED P-5010, Manual of Naval Preventive Medicine, Chapter 8, Navy Entomology and Pest Control Technology  
(h) BUMEDINST 6250.12 series, Pesticide Applicator Training and Certification for Medical Personnel  
(i) BUMEDINST 6210.3 series, Etiologic Agents/Biomedical Materials; Handling of

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## Section X

### FIELD SANITATION

Article	Page
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## 22-29

### General

(1) With regard to sanitation, the responsibilities of MO and/or SMDR when serving with personnel in the field are essentially the same as those serving with personnel housed in permanent shore establishments. They shall maintain an inspection service sufficient to ensure the sanitary operation of messing facilities, water purification equipment, waste disposal facilities, and other appliances in order to protect the health of all personnel.

(2) Sanitary appliances used in the field are simpler and easier to construct than those used in permanent installations, but more attention is required for prevention of food- and water-borne disease outbreaks.

## 22-30

### Preparation for Field Services

(1) The MO and/or SMDR shall become familiar with pre-deployment information and intelligence that pertains to health and sanitation available in the deployment area, formulate a plan, prepare the necessary sanitary orders for the practical solution of problems likely to be encountered, and present them to the commander, commanding officer, or officer in charge for approval and execution. The plan shall provide for:

(a) The indoctrination of all personnel in personal hygiene, sanitation, and the special protective measures to be used.

(b) The assignment of an adequate complement of nonmedical personnel (approximately 2 percent of the command) to sanitary duties such as maintenance and care of latrines and urinals, pest control (e.g., flies, mosquitoes, rodents), and garbage and waste disposal. In combat areas, additional personnel must be assigned for the handling and burial of the dead.

(c) The thorough indoctrination of nonmedical personnel in their sanitary duties for efficient performance with a minimum of supervision.

(d) The assignment and enforcement of priorities for the acquisition of materials and supplies and the early construction of sanitary appliances in the field.

(e) The selection of food handlers and their indoctrination in personal hygiene, sanitation in the preparation of food, and the care of utensils and mess gear. Food Service in the Field, section III of reference (a) and Management of Personnel, section II of reference (b) provides more information on this topic.

(f) The pre-inspection and approval of galley spaces by the MO and/or SMDR before being placed in operation.

(g) Medical approval of the drinking water supply, see reference (c).

(h) The indoctrination and training of personnel in the training camp or staging area in order to provide an efficient, well-trained sanitary organization upon landing.

(2) The required immunizations shall be completed in ample time to provide protection upon arrival. Reference (d) provides more information on immunizations.

(3) The MO and/or SMDR shall refer to reference (a) for further preventive medicine practices in the field.

#### **REFERENCES USED IN THIS SECTION**

- Ref: (a) NAVMED P-5010, Manual of Naval Preventive Medicine, Chapter 9, Preventive Medicine for Ground Forces  
(b) NAVMED P-5010, Manual of Naval Preventive Medicine, Chapter 1, Food Safety  
(c) TB MED 577/NAVMED P-5010-10/AFMAN 48-138\_IP, Sanitary Control and Surveillance of Field Water Supplies  
(d) BUMEDINST 6230.15 series, Immunizations and Chemoprophylaxis



## Section XI

# OCCUPATIONAL MEDICINE

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## 22-31      Occupational Health Program

(1) Reference (a) directs DON medical departments to implement “consistent, meaningful occupational health surveillance programs” (see paragraph 3f(2) of reference (a)) and “to establish and maintain effective, aggressive, and centrally directed safety, occupational health, and fire protection programs.” (see paragraph 4 of reference (a).) References (b) and (c) establish, affirm, and assign responsibilities of the Navy Occupational Health Program. The Navy Medical Department supports uniformed and civilian Navy and Marine Corps activities and personnel.

(2) Reference (b), paragraph 0805, states that “Occupational and Environmental Medicine (OEM) is a critical part of the multidisciplinary approach to the prevention of work-related injuries and illnesses and in the promotion of healthy work practices throughout the Naval workforce,” and lists components of an occupational health program.

(3) Civilian personnel who sustain employment-related injuries or occupational diseases are considered beneficiaries of the Department of Labor, Office of Workers' Compensation Programs (OWCP). The treatment and administrative management of such civilian personnel are governed by references (d) and (e).

(4) Military personnel will be managed in accordance with current DON directives.

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## 22-32 Occupational Health Examinations

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(1) In accordance with reference (f), medical evaluation programs may be established through the DON's own directives system and agencies "may establish periodic examination or immunization programs by written policies or directives to safeguard the health of employees whose work may subject them or others to significant health or safety risks due to occupational or environmental exposure or demands. The need for a medical evaluation program must be clearly supported by the nature of the work." Abnormal or concerning findings are reported to the individual and referral to a health care provider may be made. Recommended dispositions or actions are forwarded to the requesting office/officer.

(2) The administrative purposes for which physical evaluations are performed include the following:

(a) ***Pre-placement/Pre-employment Medical Examinations.*** In accordance with reference (g), "Agencies are authorized to establish physical requirements for individual positions without the Office of Personnel Management (OPM) approval when such requirements are considered essential for successful job performance." All prospective employees and personnel under consideration for reassignment will be evaluated and recommendations will be submitted in accordance with reference (h), pertinent articles in this manual, and other current

directives. Evaluations are performed to the extent required to ascertain an individual's ability to perform the required duties in the specifically identified work environments. The results of such evaluations are reported as "qualified" or "not qualified" to the personnel officer requesting the evaluation. Individuals found not qualified for a particular assignment are informed of the specific disqualifying medical findings. Referral to a physician for further evaluation or treatment may be made when indicated. Similar procedures for military uniformed personnel are conducted in accordance with current Navy directives.

(b) ***Fitness for Duty Evaluations.*** References (d), (i), and (j) allow for a "fitness for duty" physical evaluation, which must be performed in accordance with reference (h). Fitness for duty evaluations are required on the basis of observed unacceptable performance. This usually arises from a deficit or potential deficit in employee on-the-job performance which has been recognized by the person's supervisor; it also may be requested by the employee. The presence of a condition which may be detrimental to health or performance may be the basis and authority for the request. Guidance for the requesting procedure is contained in reference (h) for civilians and in reference (k), enclosure (3), paragraph 3201, for military personnel. The request for such evaluation is forwarded to the appropriate department personnel officer, who will make a formal, written request to the medical activity. Fitness for duty evaluation must always be considered as the possible initial step to a command-initiated disability retirement/separation procedure.

An individual who is unable to perform the normally-assigned tasks due to substance abuse is prohibited from commencing/returning to work that work period. Arrangements must be made to transport the person to quarters or to medical care, as indicated by the condition and required needs of the person. Reference (l) addresses drug and alcohol abuse by DoD personnel, and the civilian substance abuse program is addressed in reference (m).

(c) *Workers' Compensation Claim Case Review.* Reviewing, evaluating, supporting, or challenging workers' compensation claims helps to maintain the integrity of the system that supports workers injured on the job. In accordance with reference (n), medical officers may review all reported cases of occupational illness and take/recommend action. Upon the Injury Compensation Program Administrator's (ICPA's) request, medical officers provide medical information to be sent to the Department of Labor's OWCP to support or to controvert a claim for an occupational illness or work-related injury. Well reasoned medical opinions regarding the causal link between a claimed injury/illness and the occupation can only be provided by a physician, as defined by the OWCP. Requests for this service will be made available through the Occupational Medicine Clinic holding the occupational medicine record for the worker claiming the injury/illness. If a clinic is not staffed with a physician, then the service will be obtained through a consulting occupational medicine physician in the clinic's region.

(d) *Disability Retirement Physical Examinations.* Disability retirement examinations are a service provided to the servicing civilian personnel office. The command's interest lies in the imminent loss of talented personnel. The desire to assure security and financial well-being of the retiring individual and prompt processing to enable replacement procedures to commence are the motivating factors of the examinations. The procedure for conducting and processing disability retirement physical examinations is contained in references (o) and (p), and reference (q).

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## 22-33

### Occupational Health Surveillance

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(1) Reference (a) authorizes two categories of personnel health surveillance:

(a) Periodic personnel health status review.

(b) Periodic surveillance to confirm or detect asymptomatic exposures to health hazards, materials, and environments in the worksite.

(2) Both categories are authorized to be performed in an occupational health unit. Evaluations in the second category are directed by reference (b), paragraph 0104.h. These comprise the medical surveillance programs for chemical, biological and physical occupational stressors. Medical surveillance program details, including eligibility, elements and requirements, are found in reference (r).

(3) Those services not directly available at a branch clinic are made available through the facilities of the cognizant naval regional medical center's occupational medicine service. Requests for these services will be made through the branch clinic. Operating forces may obtain support from the area NEPMU.

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## 22-34 Other Occupational Health Services

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(1) **Emergency Care.** Emergency or first aid treatment services are provided to all persons, including contractors, who become ill or sustain an injury while at work or while on a Government reservation, for humanitarian reasons. In the absence of adequate resources, transportation to community medical facilities will be provided.

(2) **Referral to Physician.** When screening or other tests reveal abnormal conditions not associated with the work environment, the employee is informed of the findings and may be offered referral to a private physician or appropriate medical facility. Military personnel will be referred for clinical consultation at a military medical facility, if available, in accordance with local procedures.

(3) **Health Guidance and Counseling.** Within the clinic capability, health guidance and counseling are provided by all health care activities.

(4) **Immunization Programs.** A general immunization program is provided in support of civilian employees in several medical surveillance programs and of those required to travel or deploy to other geographic areas.

Immunization programs for military personnel are directed in references (s) and (t).

(5) **Treatments Requested by a Physician.** Medical treatment ordered by a civilian physician is not provided.

(6) **Medical Transportation and Ambulance Services**

(a) Transportation, as required for the care of military active duty personnel, may be provided by military or civilian services.

(b) Naval regional medical center branch clinics will provide emergency transportation services for transient personnel, visitors, and other civilians as a humanitarian service as resources and operational requirements allow.

(c) Transportation of civilian employees who require medical care is addressed and directed by reference (u). The use of civilian commercial patient transportation services may be authorized.

(d) In the case of occupational illness or injury, payment for transportation services will be by the Department of Labor OWCP, in accordance with references (u) and (v).

(e) **Non-emergency transportation of civilian personnel.** Commands may assume the responsibility to transport employees for non-emergent medical care to a local community medical treatment facility and to return the employee to the worksite after such treatment. Transportation for routine or follow-up care is not an employer responsibility.

**(7) *Medical Support to ICPAs***

(a) Reference (d) allows for medical officer review of all reported cases of occupational illness/injury and to take or recommend action. Upon an ICPA's request, the physician may provide medical information to be sent to the Office of Workers' Compensation to support or to controvert a claim for an occupational illness or work-related injury.

(b) Medical officers should perform employer directed fitness for duty examinations at the request of ICPAs or civilian personnel managers, in order to verify diagnoses or work limitations placed by an employee's civilian physician, in accordance with provisions outlined in reference (j).

**(8) *Education and Training***

(a) The need for specialized training of personnel involved in evaluating potential health hazards is recognized. Occupational health will provide education, training and consultative support as necessary to ensure that employees are provided a safe and healthful workplace.

(b) The branch medical clinic occupational health services or Navy Environmental and Preventive Medicine Unit may provide or participate in education and training sessions.

(c) Continuing education focused on board certification and maintenance of skills for occupational health staff is the responsibility of the local activity.

(9) Consultation on matters concerning occupational and environmental pollution control which may affect employees or the surrounding community.

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**22-35**

**Occupational  
Optometry**

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(1) Sight conservation may be an element in medical surveillance programs, but does not exist as a separate program.

(2) Occupational optometry services are provided to military personnel and to civilians who are deploying or who are enrolled in a medical surveillance program with vision requirements.

(3) Vision screening tests may be conducted as part of pre-placement and medical surveillance examinations.

(4) Vision certification and recertification procedures are conducted to comply with pertinent instructions as identified in medical surveillance programs with vision requirements.

(5) Occupational Health services may include verification, dispensing, and repair procedures for industrial prescription safety eyewear, training of personnel to dispense non-prescription safety eyewear, and consultative and advisory services to management on occupational vision care and maintenance.

(6) A civilian requiring prescription glasses is responsible to provide the employer with a current eyewear prescription for industrial safety eyewear.

(7) The funding and procurement of any required prescription safety eyewear is the responsibility of the supported command.

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**22-36****Occupational  
Audiology**

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(1) References (b), (c), (w), and (x) describe in-depth the requirements and medical services of Occupational audiology provided to industrially employed civilian employees and military personnel. These medical services support the respective command's Hearing Conservation Program (HCP) and include:

(a) **Hearing Testing.** Periodic hearing testing of all personnel at risk to monitor the effectiveness of the program, and enable timely audiologic and medical evaluation of those personnel who demonstrate hearing loss or significant threshold shift.

(b) **Personal Hearing Protective Devices (HPD).** Recommendations for, fitting of, and training on hearing protective devices. Actual cost of HPD, a safety device, is a responsibility of individual commands.

(c) **Education.** Education regarding the effects of potentially hazardous noise including strategies to be employed to guard against its effects.

(2) **Identification of Personnel at Risk.** All military and civilian employees judged to be at risk will be identified by their respective commands for inclusion into the HCP. Individuals should not be enrolled if there is clear evidence that they are not at risk. The Medical Department is responsible for the provision of hearing testing for those

enrolled to include diagnostic audiology evaluations. The individual's Command Safety Officer is responsible for ensuring that noise exposed individuals report for all annual and required follow-up hearing tests.

(3) **Disenrollment from the HCP** requires consultation between industrial hygienist and operational audiologist and/or occupational medicine physician. Consideration must be given to noise levels as determined by sound level survey, the approximate frequency and duration of the individual's exposure, and pertinent audiometric and medical history. The audiologist and/or occupational medicine physician will either make a professional judgment and recommendation or arrange for further evaluation. Decisions associated with disenrollment must be recorded in the medical record.

(4) **Health effects of unusual noise.** Questions concerning unusual exposures should be directed to NMCPHC. These may include, but are not limited to: greater than 16 hrs. continuous or intermittent exposure per day; intense low frequency noise; high intensity noise above 140 dB(A) sound pressure level; impulse/impact noise above 165 dB peak sound pressure level.

(5) **Supervision.** Audiometric testing will be performed by technicians certified in occupational hearing conservation, supervised by an audiologist, otolaryngologist, occupational medicine physician, or other qualified physicians who, by training or experience, have the knowledge to manage hearing loss cases.

(6) *Referral criteria.* Appropriate referral, either to audiology or otology is in order when there are unaddressed/unevaluated otologic or audiologic complaints such as dizziness/vertigo, problematic tinnitus, or communication deficit; abnormal otoscopy; hearing thresholds worse than 20dB at 500, 1000, 2000, or 3000 Hz or worse than 35dB at 4000 or 6000 Hz; there is an asymmetry of 20dB or greater between ears at any frequency; or, there is a current STS and there has been a baseline revisions within the past 3 years.

(7) *Exclusion From Future Noise Exposure.* Individuals who exhibit a progressive series of Permanent Threshold Shifts (PTSs) must be considered to be at high risk for developing further hearing loss and must be given special consideration.

(a) Individuals with a current STS who have had their reference audiogram re-established due to deteriorated hearing on three separate occasions must obtain clearance from an audiologist, otolaryngologist, or occupational medicine physician before returning to duties involving hazardous noise.

(b) Any individual who has hearing loss in both ears in which the sum of thresholds at the frequencies of

3000, 4000, and 6000 Hz exceeds a sum total of 270 dB will not be assigned to duties involving exposure to hazardous noise without an auditory fitness-for-duty evaluation and clearance as described above. If clearance is inappropriate, the audiologist or physician evaluating the individual will make specific recommendations to the individual's command. These may include the advisability of restriction from noise hazardous work, appropriate placement of the worker, or the need for stricter enforcement of hearing protection policies.

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## 22-37

### Workplace Visits

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(1) Reference (y), enclosure (2), paragraph E2.1.33 defines workplace visits as a formal inspection, staff assistance visit, walk through survey, awareness briefings for the management and staff, risk management consultations, or any other activity that will enhance the safety of the people and the operation.

(2) As part of the practice of Occupational Medicine, worksite visits are an integral function of workplace safety and health and should be performed by all personnel who are specialists in the field.

**REFERENCES USED IN THIS SECTION**

- Ref:
- (a) SECNAVINST 5100.10 series
  - (b) OPNAVINST 5100.23 series
  - (c) OPNAVINST 5100.19 series
  - (d) CA-810 Injury Compensation for Federal Employees, U.S. Department of Labor, 2009
  - (e) Federal Employee's Compensation Act Public Law 103-3, enacted February 5, 1993 (NOTAL)
  - (f) 5 CFR 339.205, Medical Evaluation Programs
  - (g) 5 CFR 339.302, Authority to Offer Examinations
  - (h) 5 CFR 339.203, Physical Requirements
  - (i) 5 CFR 339.303, Examination Procedures
  - (j) 5 CFR 339.301, Authority to Require an Examination
  - (k) SECNAVINST 1850.4E, Department of the Navy (DON) Disability Evaluation System
  - (l) DoD Instruction 1010.4, Drug and Alcohol Abuse by DoD Personnel, September 3, 1997
  - (m) DoD Administrative Instruction Number 17, Civilian Employee Alcohol and Drug Abuse Prevention, Testing, and Control Program, November 6, 2007
  - (n) DoD Instruction 1400.25-V810, DoD Civilian Personnel Management System: Injury Compensation
  - (o) 5 CFR 831.1202, Definitions - examination and reexamination, medical condition, medical documentation, and documentation of a medical condition
  - (p) 5 CFR 339.104, Definitions
  - (q) 5 CFR 844.102, Federal Employees' Retirement System – Disability Retirement
  - (r) NEHC-TM OM 6260, Medical Surveillance Procedures Manual and Medical (s) Matrix (Edition 9), August 2007
  - (s) DoD Directive 6205.02E, Policy and Program for Immunizations to Protect the Health of Service Members and Military Beneficiaries, September 19, 2006
  - (t) BUMEDINST 6230.15A, Immunizations and Chemoprophylaxis
  - (u) Federal Employees' Compensation Act (FECA), Title 5, Part III, Subpart G, Chapter 81, Subchapter I, § 8103, Medical services and initial medical and other benefits
  - (v) 20 CFR 10.315, Will OWCP pay for transportation to obtain medical treatment?
  - (w) DoD Instruction 6055.12, DoD Hearing Conservation Program (HCP)
  - (x) NMCPhC-TM OM 6260.51.99-2, Navy and Marine Corps Public Health Center Technical Manual, Navy Medical Department Hearing Conservation Program Procedures
  - (y) DoD Instruction 6055.1, DoD Safety and Occupational Health Program, August 19, 1998



## Section XII

# RADIATION HEALTH

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22-42 <b>Radiation Health Officers</b>	22-38
22-43 <b>Occupational Radiation Exposure</b>	22-39

## **22-38** **Scope**

(1) Radiation health programs comprise those procedures designed to protect and maintain the health of persons in the naval establishment whose duties involve exposure to medical or nonmedical sources of ionizing radiation.

assigned to the commander, commanding officer, or officer in charge who may delegate program-operation responsibility. On ships and stations under the command of other offices, responsibility for the radiation health program is assigned to the command's medical department.

## **22-39** **Delineation of Responsibility**

(1) Radiation health programs are a medical responsibility. At BUMED command activities, the responsibility is

(2) Radiological safety and control programs are nonmedical responsibilities, and include all non-health related procedures and techniques utilized to control access to and handling of all sources of ionizing radiation, whether natural, induced, or contaminated. Medical Department personnel normally shall not be assigned duties and responsibilities in these programs, except in BUMED command activities.

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## 22-40

### Guidance and Procedures

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(1) Basic regulations and detailed instructions regarding exposure to ionizing radiation are issued by the Environmental Protection Agency, the U.S. Nuclear Regulatory Commission, the various bureaus and offices, commanders, type and force commanders, and commanding officers. Applicable guidance for the program includes references (a) through (f). The medical officer shall adhere to these issuances and to the procedures outlined in article 22-35 of this chapter as they apply to the radiation health program.

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## 22-41

### Duties of Medical Department Personnel

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(1) Medical Department personnel at any activity involved in the construction, operation, or repair of nuclear powered vessels or research reactors, or in the maintenance of nuclear weapons, or in the use of ionizing radiation in nondestructive testing, are to:

(a) Be well-informed on current regulations and instructions regarding exposure to ionizing radiation, advise and make timely recommendations to commanders, commanding officers, and officers in charge to ensure compliance and recommend the promulgation of additional or special instructions when necessary.

(b) Determine, in accordance with current directives, the physical

fitness of individuals employed in or assigned to areas where occupational exposure to ionizing radiation can occur.

(c) Conduct, in accordance with current directives, periodic medical examinations of individuals exposed to radiological hazards.

(d) Conduct a personnel dosimetry program and advise responsible officers concerning the radiation status of individuals under their supervision.

(e) Instruct nonmedical personnel concerning the effects of ionizing radiation.

(f) Determine the adequacy of radiological control measures in effect and make recommendations for improvements when necessary.

(g) Treat patients injured from and/or contaminated with radioactive material.

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## 22-42

### Radiation Health Officers

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(1) Onboard certain naval vessels and at certain stations, the MO is provided specially trained radiation health protection officers to aid in executing the radiation health program. They may be Medical Corps (MC) or Medical Service Corps (MSC) officers, Corpsmen, or civil service employees. In such situations, these officers shall be assigned to, and carry out their duties within the command's medical department.

(2) They shall keep the MO informed of their findings and observations.

**22-43****Occupational  
Radiation Exposure**

(1) Non-ionizing radiation exposure may occur in work areas in the form of microwave (radar), ultraviolet, infrared, and intense visible and invisible spectra light type emissions (laser), either during a direct work process or as a concurrent effect of another process. Information is provided in references (g) through (i), including medical pre-placement, periodic and termination evaluations, industrial hygiene area evaluations and prescription of eye protection measures.

(2) Ionizing radiation exposures may occur during the occupational utilization of radiation as a tool (such as in industrial X-ray, radionuclide radiography or radiac calibration), the management of certain radioluminescent materials, and during work supporting medical care, research, and the Navy Nuclear Propulsion Program.

(a) The administrative procedures, the physical monitoring, documentation of exposure dose, record maintenance, training, and personnel certification of all ionizing radiation control aspects are the responsibilities of the local medical treatment facilities, except when such duties are retained by the supported commands. For specifics, see reference (f).

**REFERENCES USED IN THIS SECTION**

- Ref: (a) CFR, Title 10, Chapter 1, Nuclear Regulatory Commission, Parts 19 and 20  
(b) CFR, Title 49, Transportation  
(c) DoD Instruction 6055.08, Occupational Ionizing Radiation Protection Program  
(d) OPNAVINST 6470.2 series, Occupational Radiation Protection Program  
(e) BUMEDINST 6470.10 series, Initial Management of Irradiated or Radioactively Contaminated Personnel  
(f) NAVMED P-5055, Radiation Health Protection Manual  
(g) OPNAVINST 5100.27/MCO 5104.1 series, Navy Laser Hazards Control Program  
(h) BUMEDINST 6470.19 series, Laser Safety and Military Facilities and Research Laboratories  
(i) OPNAVINST 5100.23 series, Navy Safety and Occupational Health Program Manual, CH 22, Non-Ionizing Radiation

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## Section XIII

# INDUSTRIAL HYGIENE

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## 22-44      Industrial Hygiene

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(1) Industrial Hygiene (IH) is defined as the anticipation, recognition, evaluation and control of health hazards that may occur in the workplace. For Naval personnel, workplaces include ships, shore activities, aircraft, tactical vehicles, deployment sites, and government quarters.

(2) The Navy Safety and Occupational Health program in reference (a), paragraph 0104 (shore) and reference (b), paragraph A0202.f.(2) (forces afloat) requires BUMED to provide a comprehensive Industrial Hygiene program to all Navy and Marine Corps activities. IH routinely provides occupational exposure assessment services consisting of:

(a) Surveys, workplace walk-thrus, and investigations to identify, evaluate, and provide recommendations for the control of chemical, physical, biological and ergonomic occupational hazards. The Defense Occupational and Environmental Health Readiness System (DOEHRS) is the information management system for longitudinal exposure recordkeeping and reporting.

(b) Identifying hazards and analyzing work processes and procedures to protect the health of exposed personnel.

(c) Investigating job-related illnesses and injuries, in cooperation with occupational medicine and safety personnel, to evaluate occupational health conditions and recommend controls measures to prevent recurrences.

(d) Reviewing plans for new facilities and processes, or changes to existing facilities and processes, to ensure that provisions have been made in engineering designs to prevent, minimize and/or control associated hazards throughout the lifecycle of the process.

(e) Recommending appropriate work practices and PPE and serving as advisor to the activity's safety and health program managers.

(f) Identifying and evaluating potential chemical and biological threats.

**(3) *Lighting and Ventilation***

(a) General lighting and ventilation are determined by engineering design requirements for personnel comfort and habitability. General requirements are described in reference (c).

(b) Special surveys for illumination related to ergonomics or safety (e.g., task lighting, glare or contrast) or for process control ventilation can be accomplished during an industrial hygiene survey.

(c) Lighting and ventilation design and performance criteria can be found in references (d) through (h).

(4) Industrial Hygiene services can be obtained by contacting the Medical Treatment Facility or NEPMU responsible for providing medical services and support. Additionally, the NMCPHC, Portsmouth, Virginia can provide specialized expertise including: Health Hazard Assessments on materials, operations or weapon systems, special field investigations by consultative assist teams, consultation with medical providers, and policy/standards interpretations. NMCPHC can also assist with IH laboratory services through the Comprehensive Industrial Hygiene Labs (CIHL) in Norfolk and San Diego.

**REFERENCES USED IN THIS SECTION**

- Ref: (a) OPNAVINST 5100.23 series  
(b) OPNAVINST 5100.19 series  
(c) OPNAVINST 9640.1 series, Shipboard Habitability Program  
(d) DoD HDBK 289, Lighting on Naval Ships  
(e) Unified Facilities Guide Specification (UFGS) 26-51-00, Interior Lighting  
(f) NAVSEA T9640-AB-DDT-010/HAB, Shipboard Habitability Design Criteria Manual  
(g) NAVSEA 0938-LP-018-0010, Heating, Ventilation and Air Conditioning Design Criteria Manual for Surface Ships of the United States Navy  
(h) UFGS 23-00-00, Air Supply, Distribution, Ventilation and Exhaust Systems

## Section XIV

### ACRONYMS

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## 22-45

### *Acronyms*

AOR	Area of Responsibility
BUMED	Bureau of Medicine and Surgery
CBR	Chemical, Biological, or Radiological
CDC/USPHS	Centers for Disease Control and Prevention/United States Public Health Service
CIHL	Comprehensive Industrial Hygiene Labs
DERAT	Deratization
DOD	Department of Defense
DOEHRS	Defense Occupational and Environmental Health Readiness System
DON	Department of Navy
FMF	Fleet Marine Force
HCP	Hearing Conservation Program
HIV	Human Immunodeficiency Virus
HPD	Hearing Protective Devices
ICPA	Injury Compensation Program Administrators
IH	Industrial Hygiene
MC	Medical Corps
MDR	Medical Department Representative
MO	Medical Officer
MSC	Medical Service Corps
NAVMED PDC	Navy Medicine Professional Development Center
NEC	Navy Enlisted Classification
NEPMU	Navy Environmental and Preventive Medicine Unit
NMCI	National Center for Medical Intelligence
NMCPHC	Navy and Marine Corps Public Health Center
NOTAL	Not to All
OCONUS	Outside the Continental United States
OEM	Occupational and Environmental Medicine
OPM	Office of Personnel Management

OWCP	Office of Workers' Compensation Programs
PMA	Preventive Medicine Authority
PMT	Preventive Medicine Technicians
PPE	Personal Protective Equipment
PTS	Permanent Threshold Shift
SHARP	Sexual Health and Responsibility Program
SMDR	Senior Medical Department Representative
STDs	Sexually Transmitted Diseases
TYCOM	Type Commander
USTRANSCOM	United States Transportation Command
WHO	World Health Organization



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