



Scope of Occupational and Environmental Health Programs and Practice

The practice of occupational and environmental medicine has undergone important changes in recent years. These have been caused largely by changing expectations of society in general and employed persons in particular. In addition, the practice setting of occupational and environmental medicine has changed dramatically since the previous committee report. The provision of occupational health care has expanded from the industrial in-plant clinic to university hospital-based clinics, hospital-based clinics, multispecialty group-associated clinics, occupational medicine clinics, as well as private and government consultants. In many of these settings, the emphasis is on preventive interventions and policies rather than treatment.

The occupational and environmental physician often directs care at defined populations, in contrast to routine practice of clinical medicine. While individual practitioners may offer expertise concerning particular aspects of care (*i.e.*, radiologists for radiographic interpretation, dermatologists for skin evaluation) the occupational and environmental physician integrates information from each care giver component into a group analysis in order to provide preventive environmental interventions.

Regulation has played a role in our professional evolution. The increasing appreciation of old hazardous waste dump sites has spawned legislation (Comprehensive Environmental Response, Compensation and Liability Act--"Superfund") to deal with this ubiquitous problem. Amendments to the Superfund legislation in 1986 directed the Occupational Safety and Health Administration (OSHA) to protect the health and safety of hazardous waste workers and directed companies to notify local emergency planning agencies of the identity of hazardous chemicals used. The promulgation of the Hazard Communication Standard by OSHA resulted from the desire of employees to become more knowledgeable about chemicals with which they work. There is continuing uncertainty over the chronic health effects of longterm exposures to low levels of chemical and physical agents. These forces have increased the demands on the time of occupational and environmental physicians and require increasing familiarity with occupational medicine, toxicology, epidemiology, industrial hygiene and safety, and administration.

Issues such as the affects of AIDS in the workplace, radon, electromagnetic radiation including video display terminals, indoor air quality, drug screening, and repetitive motion trauma have been highlighted in the past decade. Naturally, components and services of an occupational and environmental health program have expanded as well. The specific contents of an occupational and environmental health program will be determined by the functions of the work organization, specific workplace or community activities, and potential hazards present. Communities are increasingly in need of qualified medical professionals to advise them on risk assessment as it

relates to the environment. Programs must first and foremost be concerned with protecting the health of workers and other populations potentially exposed to environmental injury.

There should be provisions to accept responsibility and assist in provision of necessary care in cases where health is harmed due to occupational/environmental exposures. Programs must also comply with all relevant laws and regulations. Appropriate training for participation in occupational and environmental health programs provides skill in clinical, environmental and occupational medicine, toxicology, epidemiology and biometry. In addition, practitioners should understand how to enlist and collaborate with the skills of colleagues from industrial hygiene, toxicology, occupational health nursing, safety engineering, industrial relations, health physics, ventilation engineering, mechanical engineering, biomechanics, law, public policy, and health education. The change in practice location in occupational and environmental medicine within the past decade has added another needed set of skills, those of business management.

Occupational and environmental health programs should insure communication and coordination of activities among these various seemingly diverse but interdependent skills. Occupational and environmental health programs should provide consultation and education to primary practitioners in dealing with workplace and community related toxic exposures. The reporting relationship of the occupational and environmental practitioner is important whether dealing with a corporation, trade union, governmental agency, or academic institution. It is important that the practitioner be fully informed of all significant occupational and environmental health activities, problems and concerns in order to provide necessary advice to assure a safe, healthful environment. An occupational and environmental health program should resist attempts to serve only interests of management, labor, attorneys or government. Protecting the health of the worker is the primary interest served.

Medical records generated in the program: medical data on employees and community populations should be considered confidential. Only the patient and those designated by the patient are entitled to the medical information. Employers and unions are entitled to know specific work restrictions but are not entitled to know diagnoses or the results of the medical history, physical examination, laboratory studies, or any other information in the medical record.

Only the employee can release these records. Aggregate population or sampling data are an exception. These aggregate public health data should be disseminated widely for the information and protection of all concerned. Computerization of medical information necessitates a sophisticated degree of "computer literacy" on the part of the occupational and environmental health professional. A knowledge of data management for occupational health and safety purposes is required.

This document will list those components and services that are considered a necessary or essential part of all occupational and environmental programs and those that are desirable if time and availability of medical and paramedical personnel permit. The latter are elective components of an occupational and environmental health program.

Occupational and Environmental Health Programs

ESSENTIAL COMPONENTS

Health Evaluation of Employees: Employees should be fully informed of results of each health evaluation, whether or not abnormalities are detected. When abnormalities are detected, the employee should be informed. Arrangements for care should be made when appropriate. This care may be with the employee's own physician. Follow-up information should be received, documented and appropriate action taken. Evaluations should be carried out on the following occasions:

- **Preassignment--**Health status, including assessment of emotional status, should be assessed before making recommendations regarding the assignment of a job applicant or current employee to a job to assure that the individual can perform the job safely and without endangering the safety of others. This recommendation shall be based on any or all of the following:
 - medical history;
 - occupational history (complete work history);
 - assessment of the organs or systems likely to be affected by the assignment;
 - evaluation of the description and demands of the job to which assignment is being considered; and
 - compliance with the Occupational Safety and Health Act, Nuclear Regulatory Commission , Environmental Protection Agency, Mine Safety and Health Act, Department of Transportation, Americans with Disabilities Act, or other pertinent regulations.
- **Periodic medical surveillance--**The health status of the employee should be reviewed periodically where there is a likelihood that workplace exposures or activities could have an adverse health effect. This review may be limited to those organs or systems likely to be affected.
- **Post-illness or injury--**The health status of the employee should be reevaluated following prolonged absence from work due to illness or injury. The goal is to assure that the individual has sufficiently recovered from the illness or injury to perform the job without undue risk of adverse health or safety effects to the individual or others. Should an employee return immediately to fulltime unrestricted duty? Should the employee return on a restricted basis? It is important for health personnel to be involved in return-to-work planning.

Diagnosis and treatment of occupational and environmental injuries or illnesses, including rehabilitation: Occupational and environmental injuries and illnesses should be diagnosed and treated promptly. Occupational and environmental health personnel are uniquely qualified to diagnose occupational and environmental illnesses and injuries because of their knowledge of the workplace and environment. The occupational physician can objectively resolve issues about occupational causation of illness. The occupational physician should also be knowledgeable regarding rehabilitation programs and facilities in the area. Follow-up information is encouraged when using these programs. Frequently the workplace can be used for rehabilitating employees, especially where selective work can be provided.

Emergency treatment of non-occupational injury or illness: The occupational health program should provide treatment for emergency conditions, including emotional crises that occur among

employees while at work. This treatment may only be palliative and to prevent loss of life and limb or, where personnel and facilities are available, may be more definitive. Education of employees in jobs where potential occupational hazards exist which may be specific to the job, instruction on methods of prevention and on recognition of possible adverse health effects: Every employee should know the potential hazards involved in each job to which he or she is likely to be assigned. Issuance of the OSHA Hazard Communication Standard ("right-to-know") stresses the importance of employee knowledge of chemical usage. Basic parts of the standard include the requirement that chemical manufacturers and importers: determine the hazards of each product; that chemical manufacturers/importers/distributors communicate the hazard information and associated protective measures downstream to customers through labels and Material Safety Data Sheets (MSDS); that employers identify and keep an inventory list of hazardous chemicals in their workplace; that employers label each hazardous chemical and keep on file a corresponding MSDS; that employers develop and implement a written communication program; and that employers educate their employees concerning the risks of working with hazardous chemicals. Various state and local statutes also impact in this area. Under Title III of Superfund, companies covered under the Hazard Communication Standard are required to make their chemical inventories known to local community emergency response groups. Where these standards are not met, it is the responsibility of the occupational physician to work for improvement.

Implementation of programs for the use of indicated personal protective devices--ear protection (plugs/muffs), safety spectacles, respirators, etc.: Occupational physicians should ensure that occupational and environmental health personnel should develop techniques and expertise in properly selecting and fitting personal protective devices, determining that the devices provide adequate protection to employees and educating the employees in proper utilization and care of equipment.

Evaluation, inspection, and abatement of workplace hazards: Occupational health personnel should inspect and evaluate the work place regularly, looking for potential health and safety hazards. The personnel should be familiar with job descriptions and the chemical, physical, and biological agent exposures that may result from those jobs. When hazards are found, recommendations for abatement should follow.

Toxicologic assessments including advice on chemical substances that have not had adequate toxicological testing: Occupational health personnel should advise on the nature, adequacy, and significance of toxicological test data pertinent to the workplace. Where adequate data do not exist, occupational health personnel should recommend appropriate resources for testing. Occupational health personnel should suggest protection and surveillance of employees in keeping with data available or until appropriate data are received. Biostatistics and epidemiology assessments: The program should assure that data on employee work experiences and community exposures and medical occurrences are accumulated and retained. When appropriate these data should be used to conduct epidemiological studies to assess the effects the environment and workplace may have had or is having on inhabitants or employees. This information will enable health and safety standards to be developed for the prevention of environmental and occupational illnesses and injuries.

Maintenance of occupational medical records: The occupational health program must maintain occupational medical records on each employee, documenting the reasons for and results of all evaluations. Ideally, these records should contain data sufficient to reproduce a chronology of the employees' medical occurrences, illnesses, and injuries. These data must be maintained confidentially. Procedures for preserving this confidentiality, yet allowing access to those with a bona fide need to know, must be developed. The employee, those designated by the employee, and certain government agencies have access. Third party payers and employer business representatives generally do not have access. Government regulations require retention of exposure and medical records and xrays for specified periods of time related to toxic substances or harmful physical agents. If the records are computerized, their security must be assured and the information they contain kept confidential.

Immunization against possible occupational infections: Protection should be provided to the employee who may be exposed to an infection for which there is an effective immunization, *e.g.*, hepatitis B virus exposure in health care workers. Medical interpretation/participation in development of governmental health and safety regulations: Occupational health personnel are uniquely qualified to assist in interpreting and developing these regulations for business, labor organizations, government agencies, and communities. This assures necessary protection to employee and community populations in a manner that best utilizes professional occupational safety and health personnel and other resources.

Periodic evaluation of the occupational or environmental health program: This is necessary to assure the program meets its objective effectively. The mechanism for this assessment will vary. Periodic review is necessary to make sure that high standards are being met.

Disaster preparedness planning for the workplace and the community: Occupational health personnel should assist in preparing a plan for disaster preparedness. Since community facilities and health and safety personnel are an essential part of dealing with an emergency at the work place, such planning should be done in conjunction with that of the local community (Title III-- Superfund Amendments and Reauthorization Act [SARA]).

Assistance in rehabilitation of alcohol and drug-dependent employees or those with emotional disorders: Physicians caring for employees realize the importance of rehabilitation of employees impaired by drug or alcohol abuse. This is a confidential service, and no diagnostic or treatment information is provided to the employer. The use of programs to screen for illicit drug use has been mandated in the transportation industry and military. Their use in other industries that do not have public safety concerns is controversial. The role of the occupational physician most clearly relates to rehabilitation rather than to punitive aspects of these programs.

ELECTIVE COMPONENTS

Palliative treatment of disorders to allow completion of workshift or for conditions for which an employee may not ordinarily consult a physician: Personal medical care may be provided to employees where suitable medical care is not available in the community. This may include early diagnosis. Definitive treatment and follow-up are rendered only under certain appropriate and limited conditions.

Repetitive treatment of non-occupational conditions prescribed and monitored by personal physician (physiotherapy, routine injections, etc.) or if the employee's personal physician approves this approach: This provides a service to the employee, to the personal physician, and to the employer by minimizing the time the employee must be off the job.

Assistance in control of illness-related absence from job: Occupational health personnel are uniquely qualified to assist in assessing reasons for patients' poor performance or absence from work due to illness or injury in determining when they are well enough to return to work safely. This relates to the primary role of evaluating illness conditions that render work unsafe and require job modifications.

Assistance in evaluation of personal health care: Occupational health personnel should assist employees by offering advice and counsel regarding how to seek personal health care.

Immunization against non-occupational infectious diseases: Frequently the physician is asked to provide appropriate immunizations for international travelers and for other non-occupational conditions. Also, the physician can advise travelers concerning various issues such as prevention of jet lag, foodborne and waterborne diseases, motion sickness, and the need for medical care abroad.

Health education & counseling (e.g., mental health, hypertension control, smoking cessation programs, etc): Health education and health maintenance programs are considered vital to employee populations. Hypertension control and smoking cessation programs are known to be effective workplace programs and also to improve health. Compliance training for automobile seatbelt use also helps in reduction of morbidity and mortality.

Termination and retirement administration: Health status may need evaluation when exposure ceases or employment terminates. The employee should be informed concerning health status and advised of any adverse health effects due to work or environmental exposures. Copy of the medical record may be provided to any employee or the retiree's personal physician on request.

Participation in planning, providing, and assessing the quality of employee health benefits: Occupational health personnel are qualified to assist in evaluating certain aspects of employee health benefits, the costs of such benefits, and the adequacy of care provided to populations.

Participation in systematic research: Occupational and environmental health personnel often perform formal research into scientific, regulatory, and financial (health care financing) aspects of organizations or communities.

Administration and Organization: There has been a significant change in location and type of the practice of occupational and environmental medicine in the past decade. Traditionally physicians who practiced full-time occupational medicine were deemed to have been "corporate" physicians. They were based either at the corporation headquarters or at a plant site. Surveys have indicated a shift from the corporate setting to areas such as government, academic, consulting, and clinicbased practice. Regardless of the location or type of practice, the

occupational and environmental physician should have input into the decision-making process as relates to health and safety issues. In all settings this function relates to being closely allied with industrial hygiene and safety and reporting to a level in the organization that will have a strong impact. The role of the physician is to discover through worksite visits and employee encounters, adverse environmental conditions that are amenable to improvement through engineering, procedural changes, personal protection, or training. The physician then collaborates with other professionals to carry out these improvements.

Summary

The role of the occupational and environmental health professional is to assist in development and implementation of programs to provide for safety and health of exposed workers and community populations. This document provides a compilation of the necessary and important parts of an occupational and environmental health program. The emphasis on different aspects of the various components will differ depending on the type of environmental and occupational practice.

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