

Principles of Occupational and Environmental Health in Primary Care

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Occupational and environmental health care is the specialty focused on prevention and management of environmental and occupational injuries, illness, and disability. Occupational and environmental health care also includes the promotion of health and productivity in workers, their families, and their communities.¹

Health care providers may offer occupational health care as part of their practices. The provider's role in delivering occupational health-related services may vary. Involvement depends on the defined scope of service of the practice setting, its proximity to an occupational medicine health care provider or program, and the knowledge base and interest of the health care provider.

Primary health care providers evaluate and treat workers' compensation injuries, identify workplace hazards, provide standard medical evaluations and health screenings, and treat employees' illnesses. They may assist occupational and environmental health professionals with evaluating employees for fitness-for-duty or return-to-work issues.

Regardless of the role the health care provider plays in providing occupational and environmental health services, including an occupational and environmental health history as part of the medical history and understanding the risks associated with each patient's job will assist in monitoring and maintaining the health of the working population. An occupational and environmental health history should include at least the following^{2,3}:

- Current and past positions held
- Previous employers, years employed, type of industry or employer, and products manufactured or developed
- A brief description of job duty requirements
- Known health hazards in the workplace
- Any current or past exposure to chemicals or other hazardous substances, noise, radiation, heat, vibration, or repetitive motion
- Use of personal protective equipment
- Time off work for a health problem or injury
- Changed residence because of health problems
- Spousal contact with dust or chemicals at work
- Use of pesticides in gardens or around the home

HEALTH PROMOTION

Health promotion and education are important in maintaining a healthy, productive, creative, and engaged workforce.⁴ A healthy workforce results in reduced risk of work-related injuries, less sick time usage, and improved employee morale. To assist with improving the health and well-being of their

employees, many companies offer health promotion programs at the worksite. These offerings may include on-site exercise programs; health screening for high-risk health indicators; and health education programs on topics such as smoking cessation, nutrition, exercise, stress reduction, and personal safety. Medical clearance from health care providers is sometimes requested before employees may participate in programs that involve strenuous physical activity.

Companies offering health screening programs at the worksite may screen for risk factors such as measurement of blood pressure, weight, blood glucose, cholesterol, and body mass index. Results from the screenings are used to educate employees on risk reduction through lifestyle changes, and also serve as a basis for establishing future health promotion programs that target employees' needs. Results that require evaluation or monitoring are referred to the employee's health care provider for further evaluation and, as indicated, treatment.

PREPLACEMENT HEALTH EVALUATION

Most employers require some form of preplacement screening or a physical examination before an employee may begin work. Health care providers who offer preplacement evaluations as part of their practice must understand the purpose and focus of these examinations.

The provider's focus in a preplacement evaluation is to ensure that the employee is free from any medical condition that may preclude him or from performing the job, become aggravated during performance of job duties, or affect the health and safety of others.^{5,6} During the evaluation the health care provider establishes a baseline health status for comparison when work-related injuries, illnesses, or exposures occur. The provider also gathers information for recommendations for health promotion and wellness programs. Employees in certain occupations, such as truck drivers or airline pilots, must have specific tests that are required by federal law as part of their preemployment evaluation.⁵ Therefore it is essential that the health care provider be provided with and understand the job duty requirements and the work environment associated with the job, as well as any mandated testing or evaluation components.

Components of the preplacement evaluation should include a job-specific physical examination and appropriate ancillary testing.⁵ Job-specific ancillary testing may include spirometry, audiometry, vision screening, a baseline chest x-ray study, various blood studies, and urinalysis. Drug testing or regulatory agency-required testing for certain licenses or certificates may be necessary.

The health care provider may uncover significant health findings that are incidental to the patient's job performance. Although these findings need to be addressed and plans for follow-up discussed, they should not be addressed as part of the preplacement evaluation or included in the clearance or report to the employer, unless the findings directly affect the employee's ability to perform his or her job.

After completion of the evaluation, any recommendations, restrictions, abnormal findings, identified special protective measures, or other issues should be discussed with the employee. Recommendations for periodic screening should

also be brought to the employee's attention. In addition, the provider should emphasize the need to use appropriate protective equipment and review proper body mechanics as they relate to the employee's job duties.

A written recommendation on work fitness should be provided to the employer. The recommendation should be limited to whether the employee is cleared for full work duty or whether any restrictions are recommended. Documentation of restrictions should be specific and described by function. In addition, restrictions should be listed without including the underlying medical reason, since medical information should not be provided to the employer without the employee's written consent.

MEDICAL SURVEILLANCE

When performing occupational health medical surveillance, health care providers collect, analyze, and disseminate data on groups of workers and workplaces to prevent illness and injury.⁶ These surveillances are conducted according to government requirements. In them, health care providers survey the workplace environment for potential hazards, monitor the health status of employees for exposure to harmful substances, and assess the employee's ability to perform his or her job duties.²

Potential workplace hazards can be biologic, chemical, physical, or ergonomic. The personnel responsible for OSHA compliance at the worksite performs a needs assessment to determine whether a surveillance program is necessary. Health care providers are often requested to provide some of the components of the surveillance program, such as medical examinations, biologic tests, or other health screenings that are used as part of the overall program monitoring.

Both the nature and frequency of medical surveillance are determined by national or state Occupational Safety and Health Administration (OSHA) requirements and by individual employers. Standards are available for each hazard (e.g., lead, asbestos, noise) to which workers are exposed. These standards detail the specifics of both routine medical surveillance (e.g., for workers requiring respiratory protection such as firefighters) and surveillance after exposure (e.g., exposure to noise or blood-borne pathogens). Specific requirements are listed in each code and should be referenced before performing evaluations.

DRUG AND ALCOHOL TESTING

Drug and alcohol testing is required of employees who work for companies covered by agencies of the Department of Transportation (DOT) and whose jobs are identified as safety sensitive. In addition, companies or contractors whose federal grants exceed \$25,000 are required to establish a drug-free workplace policy that includes drug screening. Individual companies also may choose to implement their own drug-free workplace requirements.⁷

Drug and alcohol testing may be performed at the time of preplacement screening, at random intervals, after accidents, and when there is suspicion of impairment from substances (or "for cause"). The most common drugs tested include the panel required by the DOT and other federal agencies. This panel includes marijuana (tetrahydrocannabinol [THC] metabolite),

cocaine, amphetamines, opiates, and phencyclidine (PCP). Private companies may screen for other drugs, such as barbiturates, hallucinogens, inhalants, or designer drugs.^{7,8} Special panels are sometimes used that include multiple drugs with potential for abuse among those with specific occupations. Most drug-testing programs adopt federal regulations, including their cutoff levels and chain-of-custody procedures required during specimen collection.

Drug screens are normally performed on urine and must be collected by staff who are knowledgeable of federal guidelines. Ethanol (alcohol) testing is done using a breathalyzer test performed by certified breath alcohol technicians or screening test technicians. Specimens are analyzed by laboratories certified to perform these tests by the Substance Abuse and Mental Health Services Administration. Results of the substance testing are sent to a designated medical review officer, whose role is to interpret drug screen results and determine whether there is a medical or other explanation for positive results before contacting the employer.

Guidelines must be strictly followed with every specimen collection, and facilities must be set up to meet the specifications for collection (e.g., dry bathrooms). Therefore most primary care practices defer drug and alcohol testing to occupational medicine programs or to private laboratories that offer drug collection as part of their services.

TREATMENT OF WORK-RELATED INJURIES, ILLNESSES, AND EXPOSURES

Workers' compensation is a system that provides medical care, wage replacement benefits, and, when necessary, rehabilitation for workers who incur injuries or illnesses as a result of workplace exposure or activity. With few exceptions for federally administered programs, most are regulated by the individual states.

Many potential hazards in the workplace can cause a work-related injury, illness, or exposure. Some of these injuries may be similar to others or already encountered within a primary care practice. Such hazards include physical hazards of the work environment that may cause injuries (e.g., from objects, falls, noise, heat, or cold). Poor ergonomics is the cause of a large number of work-related injuries, including back injuries and injuries caused by repetitive motion or cumulative trauma. It is imperative that the work setting be evaluated and altered to lessen the chance of recurrence in these situations.

Exposures may occur when employees work around potentially toxic chemicals or biologic agents. Chemical-related injury, illness, or exposure may occur as a result of normal working conditions or through accidents. These episodes require the primary care provider to have a basic understanding of toxicology. Familiarization with material safety data sheets or access to computerized databases or poison control centers can assist in determining actual exposure and necessary treatment. For biologic exposures the epidemiology, including mode of transmission, incubation, employee's immunity status, and appropriate or required follow-up testing, must be known for each exposure. Workers such as health care facility employees, emergency responders, and employees in laboratory and research facilities may encounter biologic hazards.

Workers' Compensation

Numerous professionals are usually involved in workers' compensation cases. The number of professionals and their titles may vary depending on the manner in which each employer is insured. Required forms and regular reports that reflect the employee's status must be completed within defined time frames. The health care provider usually must obtain preauthorization before referring the patient to specialty or adjunct treatment modalities or before ordering diagnostic tests.

Requirements governing workers' compensation certification vary by employer and state. Health care providers who are interested in providing workers' compensation as part of their practice should ensure that they and their support staff have a basic understanding of what is required for each patient situation. They should review state regulations and employer requirements for compliance with each case. Attending conferences in the area of workers' compensation is also helpful.

Principles of medical confidentiality regarding work-related injuries and illness must be followed. These principles limit the information employers receive regarding the exact nature of the occupational illness or injury, specifics about treatment, reasons for restrictions and limitations, and details of the plan for continual care.^{6,9} After each workers' compensation visit the treating health care provider notifies the case manager or representative of the plan concerning further medical treatment and designated work restrictions.⁶

In many situations the injured employee may not be able to perform his or her complete duties while recovering but may be able to perform parts of the job or other tasks. In these cases the health care provider works with the employer to identify how temporary accommodation of these employees can be provided through modified or light duty.⁷ Many companies are mandated or volunteer to develop modified-duty programs. To recommend modified duty, the health care provider must understand the job requirements of each injured employee. It is important that the employer provide information concerning physical job demands. The provider should describe limitation or restrictions by function and qualify and quantify restrictions in as much detail as possible to avoid confusion and to assist the employer in accommodating these restrictions.

REGULATORY AGENCY REQUIREMENTS

In addition to understanding the basics of workers' compensation, health care providers who choose to address occupational health-related medical issues need to be familiar with other regulations that apply to treatment and screening of employees. Copies of these regulations can be obtained through the respective agency responsible for the regulation, or they can be found on the Internet.

Occupational Safety and Health Administration

Created by Congress in 1970, OSHA requires each employer to provide "a place of employment, which is free from recognized hazards that are causing or are likely to cause death or serious physical harm to employees."¹⁰ OSHA functions under the Department of Labor. It has the authority to fine or imprison

employers who are found to be in violation of its regulations. Although most of OSHA's regulations deal with safety-related concerns, this organization has also issued a number of standards that specify medical evaluations and the testing of employees who may be exposed to certain workplace hazards. Testing is required when exposures meet or exceed a certain level. Other standards require that employees receive medical clearance before using the required protective equipment.

National Institute for Occupational Safety and Health

The National Institute for Occupational Safety and Health (NIOSH) was established under the Occupational Safety and Health Act of 1970 and is part of the U.S. Department of Health and Human Services. Its function is to conduct research and to advise OSHA on issues regarding hazards in the workplace. NIOSH provides educational information to health care providers, employers, and employees.

Americans with Disabilities Act

Congress enacted the Americans with Disabilities Act (ADA) in 1990 to protect disabled workers from discrimination in the workplace. This act must be considered when offering many occupational health-related evaluations. The ADA requires that an employer make reasonable accommodations so the disabled employee is able to perform those job functions considered essential to the position.¹¹ In addition, it is necessary to determine whether disabled employees can perform the job without posing a "direct threat" to the health and safety of themselves or others.¹¹

Professional Organizations

Professional organizations such as the American College of Occupational and Environmental Medicine, the American Association of Occupational Health Nurses, and the American Conference of Governmental Industrial Hygienists offer texts,

guidelines, and other information that can assist the health care provider with occupational health-related issues.

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