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Recommended Curriculum Guidelines for Family Medicine Residents

Occupational Medicine

This document was endorsed by the American Academy of Family Physicians (AAFP).

Introduction

This Curriculum Guideline defines a recommended training strategy for family medicine residents. Topic competencies, attitudes, knowledge, and skills that are critical to family medicine should be attained through longitudinal experience that promotes educational competencies defined by the Accreditation Council for Graduate Medical Education (ACGME), www.acgme.org. The curriculum must include structured experience in several specified areas. Most of the resident's knowledge will be gained by caring for ambulatory patients who visit the family medicine center. Structured didactic lectures, conferences, journal clubs, and workshops must be included in the curriculum with an emphasis on outcomes-oriented, evidence-based studies that delineate common and chronic diseases affecting patients of all ages. Targeted techniques of health promotion and disease prevention are hallmarks of family medicine. Appropriate referral patterns and provision of cost-effective care should also be part of the curriculum.

Program requirements specific to family medicine residencies may be found on the ACGME website. Current AAFP Curriculum Guidelines may be found online at www.aafp.org/cg. These guidelines are periodically updated and endorsed by the AAFP and, in many instances, other specialty societies, as indicated on each guideline.

Each residency program is responsible for its own curriculum. ***This guideline provides a useful strategy to help residency programs form their curricula for educating family physicians.***

Preamble

Occupational and environmental health is the area of family medicine dedicated to the prevention and management of occupational and environmental injury, illness, and disability, and the promotion of health and productivity of workers, their families, and communities. Family physicians' major role concerning occupational health is to ensure effective prevention and appropriate management of injury and illness related to work. When prevention is not successful, family physicians must be aware of the special circumstances and considerable variability of individual workers and the demands of their jobs. The family physician's goal should be to provide expert and comprehensive care of the injured or sick worker, and to be able to address rehabilitation and return to employment.

In addition to receiving training in the prevention, treatment, and rehabilitation of workers, residents should have the training and expertise to assist employers in the maintenance of a safe and productive work environment. More than half of American workers are employed by companies with fewer than 50 employees, and many industrial locations do not have a full-time occupational physician on site. Thus, the importance of occupational medicine training for the family medicine resident becomes evident when considering the incidence of workplace-induced illnesses and injuries.

Training programs should give special emphasis to the integration of patients' occupational history into their standard history and physical examination. Complete pre-employment assessments, as well as periodic follow-up examinations as necessary, are important components of total patient care. When injury occurs, family physicians must be concerned with treatment of the injury, prevention of reoccurrence, and the biopsychosocial consequences.

Globalization of the U.S. workforce also makes it incumbent upon the family physician to offer suggestions and advice on the social and cultural differences between employers and employees. Cultural differences can influence how patients integrate medical care into their own lives and family systems. Family medicine residents should strive to be sensitive to social and cultural differences, and take time to address potential variations in language and culture.

This Curriculum Guideline provides an outline of the attitudes, knowledge, and skills that should be among the objectives of training programs in family medicine and that will lead to optimal care of patients who incur work-related sickness, injury, or disability by future family physicians.

Competencies

At the completion of residency training, a family medicine resident should:

- Be able to perform standardized, comprehensive occupational assessments; perform any necessary further investigations; and develop preventive, acute, and long-term comprehensive treatment plans based on the patient's present and possible long-term rehabilitation symptoms (Patient Care, Medical Knowledge)
- Be able to optimize treatment plans based on the knowledge of occupational and rehabilitation resources that include local, state, and federal agencies (Systems-based Practice, Practice-based Learning and Improvement)
- Coordinate ambulatory and inpatient care across health care providers, employers, and governmental agencies (Systems-based Practice)
- Be able to communicate in a compassionate, knowledgeable manner, and address prevention, treatment, and rehabilitation issues for both the employee and employer (Interpersonal and Communication Skills)
- Be able to investigate occupational needs, offer advice on prevention, treat, and design rehabilitation plans that recognize the social, cultural, and employment needs of all parties concerned (Systems-based Practice, Practice-based Learning and Improvement)

Attitudes

The resident should develop attitudes that encompass:

- Awareness of his or her own attitudes and his or her personal and family experiences related to the roles of employees and employers, and the potential implications on the therapeutic relationship
- Recognition of the importance of the physician/employee/employer partnership in promoting and maintaining optimal health in the workplace
- Sensitivity to cultural beliefs and values, family dynamics and social support, and physiologic and environmental variables affecting workplace health and performance
- Recognition of possible conflicts of advocacy with regard to the employee, employer, work community, and community at large
- Understanding of the use of occupational medicine principles and the resident's own self-care
- Recognition of the physician's own level of competence in handling occupational health problems and the need for further consultation, as appropriate
- Utilization of self-directed learning to further his or her knowledge and competence in occupational health

- Support of the patient through the process of consultation, evaluation, treatment, rehabilitation, and possible long-term care and inability to maintain gainful employment
- Understanding of appropriate limitation of investigation and treatment for the benefit of the patient
- Lifelong learning and contribution to the body of knowledge about occupational health and the medical management of the injured patient
- Awareness of the importance of a multidisciplinary approach to the enhancement of individualized care, especially with regard to prevention in the workplace
- Awareness of the importance of cost containment

Knowledge

In the appropriate setting, the resident should demonstrate the ability to apply knowledge of:

1. The relationship of the physician providing occupational care to:
 - a. Employees
 - b. Employers
 - c. The community
 - d. Other health care providers
 - e. Workers' compensation and third-party administrators
2. Ethics and the role of the physician as:
 - a. Company representative
 - b. Workers' health advocate
 - c. Medical ombudsman
 - d. Medical recorder
3. Preplacement testing and examinations
 - a. General
 - b. Job-specific
4. Periodic health assessments, as necessary
5. Disability determination and appropriate guidelines

- 6. Organ-related occupational illnesses
 - a. Lung diseases
 - i. Reactive airway disease
 - ii. Pneumoconioses
 - iii. Infectious
 - b. Renal and urologic diseases
 - c. Skin diseases
 - i. Primary irritant dermatitis
 - ii. Allergic sensitizers
 - iii. Photosensitizers
 - d. Liver diseases
 - e. Hemopoietic disorders
 - f. Central nervous system-related disorders, including special sense organs
 - i. Eye
 - ii. Ear (e.g., noise-induced hearing loss)
 - iii. Peripheral neuropathy
 - g. Occupational exposures and pregnancy
 - h. Musculoskeletal disorders
 - i. Postural/positional
 - ii. Other orthopedic problems
 - 1) Low back pain
 - 2) Carpal tunnel syndrome
 - 3) Shoulder/rotator cuff injuries
 - 4) Epicondylitis
 - 5) Knee/meniscal injuries
 - iii. Trauma
 - 1) Acute
 - 2) Cumulative
- 7. Job-site related
 - a. Occupational hazards/exposures
 - i. Allergens
 - ii. Animals
 - iii. Barotrauma
 - iv. Burns
 - v. Electromagnetic fields
 - vi. Eye injuries
 - vii. Heavy metals
 - viii. Infections
 - ix. Human immunodeficiency virus infections
 - x. Tuberculosis
 - xi. Hepatitis

- xii. Noise
 - xiii. Pesticides/herbicides
 - xiv. Radiation/radon
 - xv. Sick building syndrome
 - xvi. Solvents/noxious gases/inhalants such as formaldehyde
 - xvii. Thermal effects
 - xviii. Violence
- b. Temporal issues
 - i. Violence
 - ii. Long hours
 - iii. Chronic fatigue
 - c. Ergonomics
 - i. Repetitive trauma
 - ii. Workstation problems
 - d. Prevention
 - i. Education
 - ii. Work environment modification
8. Psychosocial problems in industry
- a. Employee assistance programs
 - b. Stress in the workplace
 - c. Concerns of disasters (e.g., fire, explosion, terrorism)
 - d. Harassment
 - e. Substance use disorders
 - i. Alcohol
 - ii. Tobacco
 - iii. Prescription drugs
 - iv. Illegal drugs
 - f. Mental illness
9. Epidemiology and basic statistics
10. Legal issues in occupational medicine
- a. Occupational Safety and Health Administration (OSHA)
 - b. National Institute for Occupational Safety and Health (NIOSH)
 - c. Workers' compensation laws
 - d. Local health care problems
 - e. Americans with Disabilities Act
11. Effects of over-the-counter and prescribed medication on job performance

Skills

In the appropriate setting, the resident should demonstrate the ability to independently perform or appropriately refer:

1. Diagnostic
 - a. Ability to perform an occupational history
 - b. Ability to perform a job-specific physical examination
 - c. Drug testing
 - d. Recognition that common illnesses may have an occupational cause
 - e. Ability to conduct a disability assessment
2. Management of industrial-related health care problems
 - a. Appropriate community/workplace protection
 - b. Treatment of hazards of the workplace
 - c. Rehabilitation programs
 - i. Drugs
 - ii. Alcohol
 - iii. Psychological
 - iv. Musculoskeletal
 - v. Vocational
 - d. Basic laceration repair techniques and foreign-body removal
 - e. Joint injections, strapping techniques, and other applicable techniques
 - f. Management of eye injuries
 - g. Pregnancy and pre-pregnancy issues
 - h. Evaluation of a patient with a specific chemical exposure
 - i. Determination of fitness to return to work/writing the return-to-work prescription
 - j. Counseling patients and employers about workplace safety
 - k. Writing and managing work restrictions

Implementation

Family medicine residents should have exposure to occupational medicine and its concepts. This exposure is best accomplished within the residency through the appropriate use of community resources. The guidelines may be established on a longitudinal basis or with an intense, in-depth experience, utilizing family physicians and other faculty of the residency program.

Resources

Herzstein JA, Bunn WB III, Fleming LE. *International Occupational and Environmental Medicine*. St. Louis, MO: Mosby; 1998.

LaDou J. *Current Occupational and Environmental Medicine*. 4th ed. New York, NY: McGraw-Hill Medical; 2007.

Levy BS, Wegman DH, Baron SL, Sokas RK. *Occupational and Environmental Health: Recognizing and Preventing Disease and Injury*. 6th ed. New York, NY: Oxford University Press; 2011.

Rom WN, Markowitz S. *Environmental and Occupational Medicine*. 4th ed. Philadelphia, PA: Lippincott Williams & Wilkins; 2007.

Rondinelli RD, Genovese E, Brigham CR. *Guides to the Evaluation of Permanent Impairment*. 6th ed. Chicago, IL: American Medical Association; 2008.

Website Resources

American College of Occupational and Environmental Medicine. www.ocoem.org

National Institute for Occupational Safety and Health (NIOSH). www.cdc.gov/niosh/

Occupational Medicine. <http://occmmed.oxfordjournals.org/>

Occupational Safety and Health Administration (OSHA). www.osha.gov

Official Disability Guidelines. www.worklossdata.com/

Developed 11/1984 by Presbyterian Intercommunity Hospital Family Medicine Residency Program

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