



## Recommended Curriculum Guidelines for Family Medicine Residents

# Occupational Medicine

*This document was endorsed by the American Academy of Family Physicians (AAFP), the American College of Occupational and Environmental Medicine (ACOEM), the Association of Departments of Family Medicine (ADFM), the Association of Family Medicine Residency Directors (AFMRD) and the Society of Teachers of Family Medicine (STFM), and was developed in cooperation with the Presbyterian Intercommunity Hospital Family Medicine Residency Program.*

### Introduction

This Curriculum Guideline defines a recommended training strategy for family medicine residents. 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) <http://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 Web site. Current AAFP Curriculum Guidelines may be found online at <http://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 with concern to 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 to 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. A complete pre-employment assessment, 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 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 life and family systems. Family medicine residents should strive to be sensitive to social and cultural differences, and take time to address the potential variation 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 preventative, 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)
- Coordinate ambulatory and in-patient 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 communication)
- 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)

## **Attitudes**

The resident should develop attitudes that encompass:

- Awareness of their own attitudes and their personal and family experiences toward the jobs 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 regarding 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 toward further 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.
- An understanding of appropriate limitation of investigation and treatment for the benefit of the patient.
- Lifelong learning and contributing to the body of knowledge about occupational health and the medical management of the injured patient.
- An awareness of the importance of a multidisciplinary approach to the enhancement of individualized care especially with regard to prevention at the work place.
- An 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 healthcare providers
2. Ethics and the role of the physician as:
  - a. Company representative
  - b. Worker's health advocate
  - c. Medical ombudsman
  - d. Medical recorder
3. Pre-placement 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
  - iii. Trauma

## 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. Work-station 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. Worker's 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 healthcare problems
  - a. Appropriate community/workplace protection
  - b. Treatment of hazards of the workplace
  - c. Rehabilitation programs
    - i. Drugs
    - ii. Alcohol
    - iii. Psychological
    - iv. Musculoskeletal
  - 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

## **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**

Rondinelli RD, Genovese E, Brigham CR. Guides to the evaluation of permanent impairment. 6th ed. Chicago, Ill: American Medical Association, 2008.

Herzstein JA, Bunn WB, Fleming LE. International occupational and environmental medicine. St. Louis, Mo: Mosby 1998.

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Levy BS, Wegman D, eds. Occupational health: recognizing and preventing work-related disease and injury. 4th ed. Boston, Ma: Lippincott, Williams and Wilkins 2000.

Rom WN, Markowitz S. Environmental and occupational medicine. 4th ed. Philadelphia: Wolters Kluwer/Lippincott Williams & Wilkins, 2007.

Levy BS. Occupational and environmental health: recognizing and preventing disease and injury. 5th ed. Philadelphia: Lippincott Williams & Wilkins, 2006.

## **Web Sites**

American College of Occupational and Environmental Medicine: <http://www.acoem.org>

Occupational Medicine: <http://www.occupationalmedicine.com>

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