



AMERICAN ACADEMY OF  
FAMILY PHYSICIANS

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Recommended Curriculum Guidelines for Family Medicine Residents

# Occupational Medicine

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

## Introduction

This Curriculum Guideline defines a recommended training strategy for family medicine residents. Attitudes, behaviors, 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](http://www.acgme.org). The family medicine curriculum must include structured experience in several specified areas. Much of the resident's knowledge will be gained by caring for ambulatory patients who visit the family medicine center, although additional experience gained in various other settings (e.g., an inpatient setting, a patient's home, a long-term care facility, the emergency department, the community) is critical for well-rounded residency training. The residents should be able to develop a skillset and apply their skills appropriately to all patient care settings.

Structured didactic lectures, conferences, journal clubs, and workshops must be included in the curriculum to supplement experiential learning, with an emphasis on outcomes-oriented, evidence-based studies that delineate common diseases affecting patients of all ages. Patient-centered care, and targeted techniques of health promotion and disease prevention are hallmarks of family medicine and should be integrated in all settings. Appropriate referral patterns, transitions of care, and the 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](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.

Please note that the term “manage” occurs frequently in AAFP Curriculum Guidelines. “Manage” is used in a broad sense to indicate that the family physician takes responsibility for ensuring that optimal, complete care is provided to the patient. This does not necessarily mean that all aspects of care need to be directly delivered personally by the family physician. Management may include appropriate referral to other health care providers, including other specialists, for evaluation and treatment.

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 work-related injury and illness. 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 goals should be to provide expert and comprehensive care to the injured or sick worker and 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. Therefore, family physicians are frequently involved in the care and treatment of patients who work 8 hours or more each day and have spent many years in the workforce. The importance of occupational medicine training for the family medicine resident becomes evident when one considers the incidence of workplace-induced illnesses and injuries.

Training programs should give special emphasis to the integration of a patient’s occupational history into the 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 and prevention of reoccurrence, as well as social and cultural differences between employers and employees that can influence how patients integrate medical care into their own lives and family systems.

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

prepare future family physicians to provide optimal care to patients who incur work-related sickness, injury, or disability.

## **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 current and potential long-term rehabilitation symptoms (Patient Care, Medical Knowledge)
- Optimize treatment plans based on 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)
- Communicate in a compassionate, knowledgeable manner and address prevention, treatment, and rehabilitation issues for both the employee and employer (Interpersonal and Communication Skills)
- Investigate occupational needs, offer advice on prevention, provide treatment, and design rehabilitation plans that take into account the social, cultural, and employment needs of all concerned parties (Systems-based Practice, Practice-based Learning and Improvement)

## **Attitudes and Behaviors**

The resident should develop attitudes and behaviors that encompass:

- Awareness of his or her own attitudes and personal/family experiences related to the roles of employees and employers, and the potential implications of these attitudes and experiences on the therapeutic relationship
- Recognition of the importance of physician/employee/employer partnerships and the potential for conflicts 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 that affect workplace health and performance
- Recognition of the need for appropriate investigation (including workplace and non-workplace habits and activities); drug screens, when appropriate or mandated; treatment; and further consultation, when appropriate
- Utilization of self-directed learning to further his or her knowledge and competence in occupational health

- Support of the patient through rehabilitation, as well as through the patient's possible need for long-term care and inability to maintain gainful employment
- Awareness of the importance of a multidisciplinary approach to the enhancement of individualized care, especially with regard to prevention in the workplace
- Attention to cost effectiveness

## **Knowledge**

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

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. Hepatitis
  - ix. HIV infections
  - x. Infections
  - xi. Noise
  - xii. Pesticides/herbicides
  - xiii. Radiation/radon
  - xiv. Sharp tools and dangerous machinery
  - xv. Sick building syndrome
  - xvi. Solvents/noxious gases/inhalants such as formaldehyde
  - xvii. Thermal effects
  - xviii. Tuberculosis
  - xix. Violence
  - xx. Zero gravity effects

- 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
  - e. Awareness of the potential benefits/implications of early return to duty and/or modified duty for both the patient and employer
8. Psychosocial problems in industry
- a. Employee assistance programs
  - b. Stress and burnout in the workplace
  - c. Concerns regarding 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, demographics, and basic statistics
- a. Effects of obesity
  - b. Special concerns of migrant workers
  - c. Effects of age >65 years and associated functional impairments
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 (ADA)
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 the following:

1. Diagnosis
  - a. Perform an occupational history
  - b. Perform a job-specific physical examination
  - c. Conduct drug testing
  - d. Recognize that common illnesses may have an occupational cause
  - e. 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. Management of pregnancy and pre-pregnancy issues
  - h. Evaluation of a patient with a specific chemical exposure
  - i. Determination of fitness to return to work and writing of the return-to-work prescription
  - j. Counseling for patients and employers about workplace safety
  - k. Writing and management of 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. 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

LaDou J, Harrison R. *Current Occupational and Environmental Medicine*. 5th ed. New York, NY: McGraw-Hill Medical; 2014.

Levy BS, Wegman DH, Baron SL, Sokas RK. *Occupational and Environmental Health*. 7th ed. Beverly Farms, Mass.: OEM Press; 2017.

Rom WN, Markowitz S, eds. *Environmental and Occupational Medicine*. 5th ed. Philadelphia, Pa.: Lippincott Williams & Wilkins; 2006.

Rondinelli RD. *Guides to the Evaluation of Permanent Impairment*. 6th ed. Chicago, Ill.: American Medical Association; 2008.

Silver JK, Gilchrist LS. Cancer rehabilitation with a focus on evidence-based outpatient physical and occupational therapy interventions. *Am J Phys Med Rehabil*. 2011;90(5 Suppl 1):S5-S15.

Walker B Jr, Adenuga B, Mouton C. The relevance of occupational medicine to primary care in the 21<sup>st</sup> century. *J Natl Med Assoc*. 2011;103(4):306-312.

## Website Resources

American College of Occupational and Environmental Medicine. [www.acoem.org](http://www.acoem.org)

*American Family Physician (AFP)* by Topic: Occupational Health (Multiple articles) [www.aafp.org/afp/topicModules/viewTopicModule.htm?topicModuleId=89](http://www.aafp.org/afp/topicModules/viewTopicModule.htm?topicModuleId=89)

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

Occupational Safety and Health Administration (OSHA). [www.osha.gov](http://www.osha.gov)

Official Disability Guidelines (ODG). [www.worklossdata.com/](http://www.worklossdata.com/)

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

Revised 10/1990

Revised 07/1996

Revised 06/2002

Revised 03/2008

Revised 07/2013 by Mount Carmel Family Medicine Residency Program

Revised 07/2017 by University of Alabama at Birmingham (UAB) Huntsville Family Medicine Residency