AMERICAN ACADEMY OF FAMILY PHYSICIANS

AAFP Reprint No. 285

Recommended Curriculum Guidelines for Family Medicine Residents

Urgent and Emergent Care

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. 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. 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. 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

The family physician is the most broadly trained specialist in the health care profession. There is considerable overlap in the patient populations served by the family physician and the emergency physician, with a natural overlap in the competencies, knowledge, skills, and attitudes necessary to succeed in each setting. This guideline seeks to identify the unique and critical elements that might not be adequately addressed in other curricular areas (e.g., medicine, pediatrics, surgery, obstetrics, orthopedics, ophthalmology). It is assumed that management of acute emergent conditions in each required specialty rotation is adequately addressed within those curricula. Residents’ future unique practice settings (e.g., solo emergency practice, rural/remote settings that require significant stabilization for distant transport) will determine the need for additional knowledge, procedural skills, and mastery of these elements.

Prompt assessment, intervention, and disposition are critical elements of the emergency medicine experience and are frequently performed in the face of multiple simultaneous patient encounters. The resident will need to become comfortable leading and participating as a member of a health care team that treats patients in urgent and emergent situations, as well as learning the appropriate use of consultants in patient care.

Competencies

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

- Demonstrate an ability to rapidly gather and assess information pertinent to the care of patients in an urgent and emergent situation, and develop treatment plans appropriate to the stabilization and disposition of these patients (Patient Care, Medical Knowledge)
- Recognize and provide life-saving treatments for immediately life-threatening conditions common to emergency medicine settings (e.g. airway obstruction or tension pneumothorax) (Medical Knowledge, Patient Care)

- Identify the indication and perform procedures as appropriate for the stabilization of the patient in an urgent and emergent care setting (Patient Care, Medical Knowledge, Practice-based Learning and Improvement)
- Acquire the requisite skills in appropriate utilization of the resources available in the urgent and emergent care setting, including laboratory, radiology, ancillary services, and consultations with specialists (including transfer to a higher level of care) (Systems-based Practice)
- Demonstrate an ability to learn from experience, perform self-analysis of practice patterns, and participate in peer review of practice patterns (Practice-based Learning and Improvement)
- Use a professional and caring manner and sensitivity to cultural and ethnic diversity to appropriately inform and educate the patient and family, and to elicit their participation in medical decision making (Professionalism, Interpersonal and Communication Skills)

Attitudes and Behaviors

The resident should demonstrate attitudes and behaviors that encompass:

- Ability to communicate effectively and compassionately with patients and families
- Ability to communicate effectively with physicians and other health care professionals and to work effectively in a team, especially in facilitating transitions of care
- Capacity to work effectively and efficiently to assess the patient according to the urgency of the patient's problem
- Awareness of the importance of cost containment and the need to appropriately utilize medical resources
- Awareness of the role of the emergency department in disaster planning for a community
- Understanding of the role of the family physician in disaster planning, training, and integration into the various government and private agencies responding to natural and man-made disasters

Knowledge

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

1. The principles of care through the continuum of medical management
    a. Pre-hospital emergency care and its importance in the initial stabilization of

patients
   i. Emergency medical services (EMS)
   ii. Communication systems and protocols (including appropriate implementation on a community- and system-wide basis)

b. Prioritization and triage

c. Resuscitation and stabilization

d. Reassessment and monitoring

e. Consultation

f. Disposition

g. Mass casualty and disaster planning, and coordination of care with appropriate government and private agencies

2. Assessment and management of conditions in the following content areas:

   a. Trauma
      i. Primary and secondary assessment of the traumatically-injured patient
      ii. By mechanism of injury
         1) Blunt trauma (e.g., heart, lung, intra-abdominal organ rupture)
         2) Penetrating trauma (e.g., gunshot, stab wounds)
      iii. By site of injury
         1) Head and neck
         2) Spine and spinal cord
         3) Facial
            a). Ocular injury and/or symptoms (e.g., painful or red eye)
         4) Soft tissue
         5) Chest
         6) Abdomen
         7) Extremities
         8) Genital and urinary

   b. Psychiatric emergencies
      i. Mood disorders
      ii. Homicidal ideation, suicidal ideation and attempt
      iii. Acute mania
      iv. Acute anxiety and panic disorders
      v. Hysterical conversion
      vi. Addictive disorders, overdose syndromes, and drug-seeking behaviors
      vii. Pain management guidelines, including acute pain management in chronic pain patients and the role of the emergency physician in limiting prescription drug diversion
      viii. Delirium and altered mental status
      ix. Risk assessment and involuntary commitment
      x. Management of the combative patient
      xi. Acute alcohol and drug withdrawal
      xii. Utilization of mental health services in the emergent setting

c. Environmental disorders
    i. Burns (e.g., chemical, thermal, electrical)
    ii. Electrocution and lightning injuries
    iii. Bites (human and animal) and stings
    iv. Poisonous plants
    v. Hypersensitivity reactions and anaphylaxis

d. Obstetric and gynecologic emergencies
    i. Sexual assault and rape
    ii. Acute pelvic pain
    iii. Ectopic pregnancy
    iv. Threatened or spontaneous abortion
    v. Precipitous delivery, preeclampsia, and eclampsia
    vi. Vaginal bleeding
    vii. Emergency contraception

e. Victims of violence
    i. Child abuse
    ii. Partner/spousal abuse
    iii. Elder abuse

3. Recognition and management of acute life-threatening conditions in the following organ systems:

a. Acute neurologic disorders
    i. Altered level of consciousness and coma
    ii. Acute cerebrovascular accidents (CVA)
        1) Hemorrhagic
        2) Embolic, and understanding the indications and management of thrombolysis in acute embolic CVA
        3) Transient ischemic attack (TIA)
    iii. Acute infections of the nervous system, meningitis, and encephalitis
    iv. Seizures
    v. Acute headache management
    vi. Acute spinal cord compression
    vii. Closed head injury (e.g., concussion, contusion)

b. Acute respiratory disorders
    i. Acute respiratory distress and failure
    ii. Pulmonary embolism
    iii. Pulmonary infections
    iv. Pneumothorax
    v. Exacerbation of obstructive and restrictive lung disease (e.g., asthma, chronic obstructive pulmonary disease [COPD])

c. Acute cardiovascular disorders
    i. Acute chest pain
    ii. Cardiac arrest
    iii. Life-threatening dysrhythmias

iv. Acute coronary syndrome (e.g., unstable angina, non-ST segment elevation myocardial infarction [NSTEMI], STEMI)
v. Heart failure (acute and exacerbation of chronic heart failure)
vi. Thoracic and abdominal aortic aneurysm dissection and rupture
vii. Thrombolytic therapy
viii. Hypertensive urgencies and emergencies
ix. Acute vascular obstruction
x. Thromboembolism (pulmonary embolism and deep vein thrombosis [DVT])

d. Acute endocrine disorders
   i. Diabetic ketoacidosis and hyperosmotic nonketotic state
   ii. Thyroid emergencies (thyroid storm and myxedema coma)
   iii. Acute adrenal insufficiency

e. Acute gastrointestinal disorders
   i. Acute gastrointestinal bleeding
   ii. Acute abdomen and its initial surgical evaluation
   iii. Acute cholecystitis
   iv. Acute appendicitis
   v. Acute pancreatitis
   vi. Acute diverticulitis
   vii. Acute bowel obstruction
   viii. Ischemic bowel disease

f. Acute genitourinary system disorders
   i. Sexually transmitted infections
   ii. Acute testicular pain (e.g., testicular torsion, epididymitis)
   iii. Renal colic and nephrolithiasis
   iv. Acute pyelonephritis
   v. Acute urinary retention
   vi. Priapism

g. Acute musculoskeletal disorders
   i. Initial fracture management
   ii. Reduction of acutely dislocated joints
   iii. Acute joint sprains and strains
   iv. Compartment syndromes

4. Recognition and management in the following areas:

   a. Toxicologic emergencies, toxidromes, and their treatment
      i. Acute overdose and pharmacokinetics
      ii. Accidental poisonings and ingestion
      iii. Treatments and antidotes
      iv. Access to databases and poison control

   b. Mass casualty
      i. Bioterrorism
      ii. Environmental/natural disaster
      iii. Nuclear

iv. Biological and infectious
v. Chemical

c. Special circumstances
   i. Resuscitations (e.g., coordination, communication, recording)
   ii. Drowning and near-drowning
   iii. Sudden infant death syndrome (SIDS)
   iv. Metabolic disorders and acid-base imbalance
   v. Shock and initial resuscitative measures required for each unique condition
      1) Hypovolemia and acute kidney injury
      2) Acute heat exhaustion and heat stroke
      3) Cold exposure injuries (e.g., hypothermia, frostbite)
      4) Systemic inflammatory response syndrome (SIRS), sepsis, severe sepsis, and septic shock
   vi. Acute infectious emergencies
   vii. Sickle cell disease
      1) Pain management
      2) Vaso-occlusive crisis
      3) Acute chest

d. Indications and interpretation of diagnostic tests pertinent to the urgent and emergent setting
   i. Electrocardiograms
   ii. Blood laboratory chemistry and hematologic studies
   iii. Radiologic imaging of:
      1) Acute head and cervical spine injuries
      2) Chest pathology
      3) Acute abdominal conditions
      4) Pelvis and extremity injuries

e. Medicolegal issues
   i. Informed consent and competency
   ii. Withholding and termination of treatment
   iii. Laws (e.g., commitment, Good Samaritan, reportable conditions, Emergency Medical Treatment and Labor Act [EMTALA])
   iv. Liability (e.g., duty to treat, negligence and standard of care, risk management)

f. Disease prevention
   i. Active and passive immunization
   ii. Antibiotic prophylaxis

Skills

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

1. Airway management

a. Heimlich maneuver
b. Ensuring airway patency and the use of advanced airway techniques
    i. Bag-valve mask ventilation
    ii. Oral endotracheal intubation in children and adults, including rapid sequence intubation
    iii. Laryngeal mask airway (LMA)
    iv. Esophageal obturator airway
c. Needle thoracentesis and tube thoracostomy
d. Initiation of mechanical ventilation
e. Cricothyroidotomy

2. Anesthetic techniques, including appropriate assessment and monitoring
    a. Local and topical anesthesia
    b. Regional and digital nerve blocks
    c. Procedural sedation and analgesia, including intravenous and alternate routes

3. Hemodynamic techniques
    a. Arterial catheter insertion and blood gas sampling
    b. Central venous access (e.g., jugular, femoral, subclavian)
    c. Doppler and ultrasound vascular access
    d. Intraosseous infusion

4. Diagnostic and therapeutic procedures
    a. Control of epistaxis (anterior and posterior packing)
    b. Peritoneal tap and lavage
    c. Lumbar puncture
    d. Arthrocentesis
    e. Pericardiocentesis
    f. Nasogastric intubation
    g. Thoracentesis

5. Skeletal procedures
    a. Spine immobilization and traction techniques
    b. Fracture and dislocation immobilization techniques
    c. Fracture and dislocation reduction techniques
    d. Initial management of traumatic amputation

6. Other

a. Repair of skin lacerations (including plastic closure)
b. Management of wounds
c. Management of foreign bodies in the skin and body orifices
d. Mass casualty triage
e. Multiple patient management
f. Evaluation of ocular trauma and ocular complaints
g. Grief and loss counseling
h. Critical incident stress debriefing
i. Management of acute cardiorespiratory arrest in all age groups and implementation of the skills of Advanced Cardiac Life Support (ACLS), Pediatric Advanced Life Support (PALS) and Advanced Trauma Life Support (ATLS) to lead a team resuscitative effort

Implementation

A significant portion of management of emergencies will be provided by services other than the emergency department. Although much of the content of this guideline may be fulfilled while the resident is working in the emergency department, additional off-site experiences (e.g., helicopter or ground transport exposure) may be of educational value. Incorporating urgent care experiences into the overall educational plan may provide significant adjunctive learning, as an increasing number of family physicians now work in urgent care centers.

Residents should have the opportunity to concentrate time spent in the emergency department on evaluation and management of patients who have presentations atypical of other outpatient experiences. Knowledge and skill acquisition may be supplemented through additional lecture series or course work, including Advanced Burn Life Support (ABLS), ACLS, Advanced Life Support in Obstetrics (ALSO), Advanced Trauma Life Support (ATLS), Pediatric Advanced Life Support (PALS), and other such courses.

Resources

Knoop KJ, Stack LB, Storrow A, Thurman RJ. *The Atlas of Emergency Medicine*. 3rd ed. New York, NY: McGraw-Hill; 2009.

Marx JA, Hockberger RS, Walls RM. *Rosen's Emergency Medicine: Concepts and Clinical Practice*. 8th ed. Philadelphia, Pa.: Saunders; 2013.

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Tintinalli JE, Stapczynski JS, Ma OJ, Cline DM, Cydulka RK, Mackler GD. *Tintinalli's Emergency Medicine: A Comprehensive Study Guide*. 7th ed. New York, NY: McGraw-Hill; 2010.

Websites

American Board of Emergency Medicine. www.abem.org/public/

American College of Emergency Physicians. www.acep.org/

Centers for Disease Control and Prevention. www.cdc.gov/

Centers for Disease Control and Prevention. Emergency Preparedness and Response. http://emergency.cdc.gov/

Developed 07/1995 by Doctors' Hospital of Michigan Family Medicine Residency Program
Published 07/1995
Revised 12/2001
Revised 01/2008
Revised 11/2009
Revised 06/2012 by Doctors' Hospital of Michigan
Revised 06/2014 by Southern Colorado Family Medicine Residency Program, Pueblo
Revised 07/2016 by Memorial Family Medicine Residency, Savannah, GA