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Recommended Curriculum Guidelines for Family Medicine Residents

Urgent and Emergent Care

This document was endorsed by the American Academy of Family Physicians (AAFP), 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 Doctors' Hospital of the Michigan 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

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 emergency physician, with a natural overlap in the competencies, knowledge, skills and attitudes necessary to succeed in this 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. Future unique practice settings (e.g., solo emergency practice, rural/remote settings requiring 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 is frequently performed in the face of multiple simultaneous patient encounters. The resident will need to become more comfortable in managing these patients as a member of a health care team and learn the appropriate use of consultants in their management.

Competencies

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

- Demonstrate an ability to rapidly assess and gather 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)
- Be able to identify the indication and perform procedures appropriately for the stabilization of the patient in an urgent and emergent care setting. (Patient Care, Medical Knowledge)
- 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, Improvement)
- Appropriately inform, educate and elicit patient and family participation in medical-decision making in a professional and caring manner with sensitivity to cultural and ethnic diversity. (Professionalism, Interpersonal, Communication Skills)

Attitudes

The resident should demonstrate attitudes that encompass:

- An ability to communicate effectively and compassionately with patients and families.
- A capacity to work effectively and efficiently to assess the patient according to the urgency of the patient's problem.
- An awareness of the importance of cost-containment and the need to appropriately utilize medical resources.
- An ability to work effectively with other members of the health care team, including consultants, nursing and ancillary staff and social services.
- An awareness of the role of the emergency department in disaster planning for a community.
- An 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:

1. The Principles of Care through the continuum of medical management
 - a. Pre-hospital emergency care and its importance to the initial stabilization of patients
 - i. Emergency medical systems (EMS)
 - ii. Communication systems and protocols (including appropriate implementation on a community-wide and system 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
 - 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. Delirium and altered mental status
 - viii. Risk assessment and involuntary commitment
 - ix. Management of the combative patient
 - x. Acute alcohol withdrawal
 - xi. Utilization of mental health services in the emergent setting
 - c. Environmental disorders
 - i. Burns (e.g. chemical, thermal, electrical)
 - ii. Electrocutation and lightening injuries
 - iii. Heat and cold injuries
 - iv. Bites (human and animal) and stings
 - v. Poisonous plants
 - vi. Hypersensitivity reactions and anaphylaxis
 - d. Obstetric and gynecological emergencies
 - i. Sexual assault and rape
 - ii. Acute pelvic pain
 - iii. Ectopic pregnancy
 - iv. Threatened or spontaneous abortion
 - v. Precipitous delivery, pre-eclampsia and eclampsia
 - vi. Vaginal bleeding
 - vii. Emergency contraception
 - e. Victims of violence
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
 - iii. Acute infections of the nervous system, meningitis and encephalitis
 - iv. Seizure disorders
 - v. Headache management
 - vi. Acute spinal cord compression
 - b. Acute respiratory disorders
 - i. Acute respiratory distress and failure
 - ii. Pulmonary embolism

- iii. Pulmonary infections
- iv. Pleural effusions, empyema and pneumothorax
- v. Obstructive and restrictive lung disease (e.g. asthma, COPD)
- c. Acute cardiovascular disorders
 - i. Acute chest pain
 - ii. Cardiac arrest
 - iii. Life-threatening dysrhythmias
 - iv. Acute coronary syndrome (e.g. unstable angina, NSTEMI, STEMI)
 - v. 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)
- d. Acute endocrine disorders
 - i. Diabetic ketoacidosis and hyperosmotic non-ketotic state
 - ii. Thyroid emergencies (thyroid storm and myxedema coma)
 - iii. Acute adrenal insufficiency
- f. 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
- g. 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. Urinary retention
 - vi. Priapism
- h. Acute musculoskeletal disorders
 - i. Initial fracture management
 - ii. Reduction of acutely dislocated joints
 - iii. Acute joint sprains and strains
 - iv. Closed head injury (e.g. concussion, contusion)
 - v. 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 dehydration
 - 2). Acute heat exhaustion and heat stroke
 - 3). Septic shock
 - vi. Acute infectious emergencies
- 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. Medico-legal issues
 - i. Informed consent and competency
 - ii. Withholding and termination of treatment
 - iii. Laws (e.g. commitment, Good Samaritan, reportable conditions, 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:

- 1. Airway management
 - a. Heimlich maneuver
 - b. Ensuring airway patency and the use of advanced airway techniques
 - i. Bag-mask ventilation
 - ii. Oral endotracheal intubation in children and adults
 - 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
 - a. Local anesthesia
 - b. Regional and digital nerve blocks
 - c. Intravenous sedation and analgesia
- 3. Hemodynamic techniques
 - a. Arterial catheter insertion and blood gas sampling
 - b. Central venous access (e.g. jugular, femoral, subclavian)
 - c. Venous cut-down
 - 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. Grief and loss counseling
 - g. Critical incident stress debriefing

- h. Management of acute cardiorespiratory arrest in all age groups and implementation of the skills of ACLS (Advanced Cardiac Life Support) to lead a team resuscitative effort

Implementation

A significant portion of management of emergencies will be obtained from services other than the emergency department. Although much of the content of these guidelines 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.

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, advanced cardiac life support, advanced life support in obstetrics, advanced trauma life support, pediatric advanced life support and other such courses.

Resources

Marx JA, Hockberger RS, Walls RM, Adams J, Rosen P. Rosen's Emergency Medicine: Concepts and Clinical Practice. 7th ed. Philadelphia, Pa.: Mosby/Elsevier, 2009.

Tintinalli JE, Kelen GD, Stapczynski JS. Emergency Medicine: A Comprehensive Study Guide. 6th ed. New York, N.Y.: McGraw-Hill, 2004.

Roberts J, Hedges J. Clinical Procedures in Emergency Medicine. 5th ed. Philadelphia, Pa. Elsevier Saunders, 2010.

Knoop KJ, Stack LB, Storrow AB. Atlas of Emergency Medicine. New York, N.Y.: McGraw-Hill, 1997.

Websites

The American Board of Emergency Medicine
www.abem.org

The American College of Emergency Physicians
www.acep.org

The Centers for Disease Control
www.cdc.gov

The Centers for Disease Control-Emergency Preparedness and Response
<http://emergency.cdc.gov/>

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