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FAMILY PHYSICIANS

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Recommended Curriculum Guidelines for Family Medicine Residents

Care of the Surgical Patient

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. 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

Care of the surgical patient is an important part of the education and practice of family physicians. Some family physicians assist during major surgical procedures. Many others are called upon by their surgical specialist colleagues to evaluate patients for surgery, make preoperative and perioperative recommendations for care, and assist in the postoperative medical management of patients. Family physicians are often asked to help their patients understand their appropriateness for surgery and the risks and benefits of surgical procedures. Some patients may turn to their family physician to help them understand the exact nature of a surgical procedure. Importantly, family physicians need to know how to appropriately refer patients for surgery, particularly in emergent or life-threatening situations.

Competencies

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

- Assess a surgical problem and develop an appropriate surgical treatment plan (Medical Knowledge, Patient Care)
- Coordinate ambulatory, inpatient, and institutional care across health care providers, institutions, and agencies (Systems-based Practice, Patient Care)
- Demonstrate the ability to communicate effectively with the patient, as well as with the patient’s family and caregivers, to ensure that the diagnosis and treatment plan are clearly understood (Interpersonal and Communication Skills)
- Demonstrate the ability to communicate effectively with the surgeon supervisor/consultant about the patient’s symptoms, physical findings, test results, and proposed plan of care (Interpersonal and Communication Skills, Professionalism)
- Recognize his or her practice limitations and seek consultation with other health care professionals when necessary to provide optimal care (Professionalism, Practice-based Learning and Improvement)

Attitudes and Behaviors

The resident should develop attitudes and behaviors that encompass:

- Recognition of the importance of collaboration between the family physician and the surgeon as partners in the evaluation of surgical patients and the decision-making process regarding their care
- Awareness of the principles involved in differentiating the cause of clinical symptoms that result in the need for surgical intervention
- Sensitivity to concerns and anxieties of the patient and the patient's family members regarding the potential for surgical intervention

Knowledge

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

1. Basic principles of surgical diagnosis
 - a. Basic surgical anatomy
 - b. Wound physiology, care, and healing processes
 - c. Clinical assessment, including history, physical examination, laboratory evaluation, and differential diagnosis of key signs and symptoms of surgical conditions
 - d. Invasive versus noninvasive diagnostic tests
2. Anesthesia
 - a. Candidacy for anesthesia
 - b. Premedication
 - c. Agents and routes of administration
 - d. Resuscitation methods
3. Recognition of surgical emergencies
 - a. Respiratory
 - i. Airway obstruction
 - ii. Chest trauma
 - 1) Flail chest
 - 2) Hemothorax
 - 3) Pneumothorax
 - b. Circulation
 - i. Hypovolemia
 - 1) Gastrointestinal bleeding

- 2) Traumatic blood loss
- c. Acute abdomen
 - i. Perforated viscus
 - ii. Intestinal obstruction
 - iii. Incarcerated hernia
 - iv. Mesenteric ischemia
 - v. Appendicitis
 - vi. Diverticulitis
 - vii. Cholecystitis
- d. Soft tissue
 - i. Necrotizing soft tissue infections
 - ii. Thermal injuries
- 4. Common surgical procedures
 - a. Appendectomy
 - b. Cholecystectomy
 - c. Herniorrhaphy
 - d. Colectomy
 - e. Hemorrhoidectomy: surgical or simple banding
 - f. Breast surgery: lumpectomy, mastectomy
 - g. Arterial bypass and endarterectomy
 - h. Varicose vein procedures
 - i. Thyroidectomy and parathyroidectomy
- 5. Ethical, legal, and socioeconomic considerations
 - a. Informed consent
 - b. Quality of life
 - c. Cultural sensitivity
 - d. End-of-life issues
- 6. Preoperative assessment
 - a. Recognition of appropriate surgical candidates, alternatives, and timing of surgery
 - b. Surgical risk assessment
 - c. Comorbid diseases
 - d. Antibiotic prophylaxis
 - e. Patient preparation (e.g., bowel, medication, schedule)

7. Intraoperative care
 - a. Basic principles of asepsis and sterile technique
 - b. Fluid management
 - c. Blood requirements
 - d. Temperature control
 - e. Use of basic surgical instruments
 - f. Principles of wound closure
 - g. Choice of suture/wound closure materials
8. Postoperative care
 - a. Routine
 - i. Wound care
 - ii. Patient mobilization
 - iii. Nutrition management/bowel function
 - iv. Pain management
 - v. Suctions and drains
 - vi. Incentive spirometry
 - b. Common complications
 - i. Fever evaluation and management
 - ii. Wound dehiscence and infection
 - iii. Urinary retention and/or infection
 - iv. Hemorrhage
 - v. Atelectasis/pneumonia
 - vi. Fluid overload and oliguria
 - vii. Transfusion reaction
 - viii. Deep venous thrombosis (DVT) and pulmonary embolism
 - ix. Ileus
 - x. Shock
 - xi. Delirium
9. Outpatient surgery
 - a. Patient selection
 - b. Procedural sedation and analgesia
 - c. Postoperative observation principles
10. Office care of common conditions
 - a. Lumps, bumps, foreign bodies, and abscesses
 - b. Lacerations
 - c. Superficial burns
 - d. Methods of analgesia

11. Adjunctive and long-term care of organ donors and recipients
12. Adjunctive and long-term care of bariatric surgical patients
13. Recognition and care of surgical wounds
 - a. Penetrating wounds
 - b. Avulsion, crush, or shear injury wounds
 - c. Bite wounds

Skills

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

1. Surgical risk evaluation
 - a. Physical assessment
 - b. Medical history and medication review
 - c. Radiographic and noninvasive diagnostic procedures
 - d. Invasive diagnostic procedures
 - i. Paracentesis
 - ii. Nasogastric lavage
 - iii. Thoracentesis
 - iv. Bladder aspiration
 - v. Central venous access (central venous pressure, Swan-Ganz catheter)
 - vi. Venous cutdown
 - vii. Arterial puncture and catheterization
 - viii. Needle aspiration and biopsy technique
2. Recognition of need for emergent surgical techniques
 - a. Cricothyroidotomy
 - b. Needle thoracostomy
 - c. Pericardiocentesis
3. Intraoperative skills
 - a. Preparation and draping of operative field
 - b. Use of basic surgical instruments for surgical assisting
 - c. Incision and dissection
 - d. Exposure and retraction
 - e. Hemostasis and estimation of blood loss

- f. Fluid replacement
- g. Wound closure
 - i. Technique selection (ligature, staples, adhesives)
 - ii. Suture selection
 - iii. Drains
 - iv. Dressings
- 4. Postoperative care
 - a. Suture removal
 - b. Dressing changes
 - c. Drain removal
- 5. Minor surgical techniques
 - a. Local anesthesia
 - b. Simple excision
 - c. Incision and drainage of abscesses
 - d. Aspiration of cysts
 - e. Foreign body removal
 - f. Cauterization and electrodesiccation
 - g. Skin biopsy (punch, shave, excisional)
 - h. Wound debridement
 - i. Enucleation and excision of external thrombotic hemorrhoid
 - j. Nail surgery
- 6. Counseling about advance directives, organ donation, and end-of-life issues
- 7. Recognition and treatment of venous stasis ulcers, arterial ulcers, and neuropathic ulcers
- 8. Grading and treatment of decubitus ulcers

Resources

American College of Surgeons. *ATLS: Advanced Trauma Life Support for Doctors (Student Course Manual)*. 9th ed. Chicago, Ill.: American College of Surgeons; 2012.

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Pfenninger JL, Fowler GC. *Pfenninger and Fowler's Procedures for Primary Care*. 3rd ed. Philadelphia, Pa.: Saunders; 2010.

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Zuber TJ, Mayeaux EJ Jr. *Atlas of Primary Care Procedures*. 2nd ed. Philadelphia, Pa.: Lippincott Williams & Wilkins; 2003.

Website Resources

Family Practice Notebook. Surgery Book. <http://fpnotebook.com/Surgery/index.htm>

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