



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

Each family medicine residency program is responsible for its own curriculum. The AAFP Commission on Education's Subcommittee on Graduate Curriculum has created this guide as an outline for curriculum development, and it should be tailored to the needs of the program.

Through a series of structured and/or longitudinal experiences, the curricula below will support the overall achievement of the core educational competencies defined by the Accreditation Council for Graduate Medical Education (ACGME) and provide guideposts to program requirements specific to family medicine. For updates and details, please refer to the ACGME website at www.acgme.org. 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.

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 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.

Medical Knowledge

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

1. Principles of surgical diagnosis
 - a. Basic surgical anatomy
 - b. Wound physiology, care, and normal healing processes, as well as abnormal wound healing problems and complications
 - 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
 - e. Indications for inpatient versus outpatient surgical management
2. Concepts of common surgical techniques
 - a. Open
 - b. Mini-open
 - c. Scope-assisted (e.g., laparoscopic, arthroscopic, endoscopic)
 - d. Intravascular
 - e. Robotic-assisted
3. Anesthesia techniques
 - a. Candidacy and indications or contraindications for anesthesia
 - b. Premedication
 - c. Agents and routes of administration
 - d. Resuscitation methods
4. Knowledge of common surgical procedures and their indications and contraindications
 - a. Appendectomy
 - b. Cholecystectomy
 - c. Herniorrhaphy
 - d. Colectomy
 - e. Hemorrhoidectomy: surgical or simple banding
 - f. Transurethral resection of the prostate (TURP), prostatectomy
 - g. Breast surgery: lumpectomy, mastectomy
 - h. Arterial bypass and endarterectomy
 - i. Varicose vein procedures
 - j. Thyroidectomy and parathyroidectomy
 - k. Bariatric surgery
 - l. Total joint replacement
 - m. Musculotendinous (e.g., rotator cuff, Achilles, plantar fascia)
 - n. Skin and soft tissue procedures (e.g., incision and drainage, mass excision, debridement)
5. Preoperative assessment

- a. Recognition of surgical candidacy, alternatives, and timing of surgery
 - b. Assessment of surgical risk
 - c. Assessment and preoperative optimization of comorbid diseases
 - d. Assessment of medications and strategies for managing medications during the pre-, peri-, and postoperative courses
 - e. Assessment of need for antibiotic prophylaxis
 - f. Assessment of airway
 - g. Patient preparation (e.g., bowel, medication, schedule)
 - h. Nutritional optimization
 - i. Preoperative testing (e.g., electrocardiography [ECG], spirometry, laboratory), as indicated
6. 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
7. Postoperative care
- a. Routine
 - i. Wound care
 - ii. Patient mobilization
 - iii. Nutrition management/bowel function
 - 1. Parenteral nutrition management
 - iv. Pain management
 - v. Drains and suction
 - vi. Incentive spirometry
 - vii. Principles of rehabilitation and indications for inpatient versus outpatient versus home care rehabilitation
 - 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
8. Recognition of surgical emergencies

- a. Respiratory
 - i. Airway obstruction
 - ii. Failure of anesthesia airway management
 - iii. 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
9. Knowledge of emergent surgical techniques and their indications
- a. Cricothyroidotomy
 - b. Needle thoracostomy
 - c. Pericardiocentesis
10. Recognition of venous stasis ulcers, arterial ulcers, and neuropathic ulcers, and knowledge of their treatment
11. Grading of decubitus ulcers and knowledge of their treatment
12. Outpatient surgery
- a. Patient selection
 - b. Procedural sedation and analgesia
 - c. Postoperative observation principles
13. Knowledge of the office care of common conditions and their management
- a. Lumps, bumps, foreign bodies, cysts, and abscesses
 - b. Ingrown toenails
 - c. Lacerations
 - d. Superficial burns
 - e. Methods of local analgesia
 - f. Methods of lesion excision
 - g. Methods of skin biopsy

14. Recognition and care of surgical wounds
 - a. Penetrating wounds
 - b. Avulsion, crush, or shear injury wounds
 - c. Bite wounds

15. Knowledge of ethical, legal, and socioeconomic considerations
 - a. Informed consent
 - b. Quality of life
 - c. Cultural sensitivity
 - d. End-of-life issues

16. Knowledge of adjunctive and long-term care of organ donors and recipients

17. Knowledge of adjunctive and long-term care of bariatric surgical patients

Patient Care

At the completion of residency, a family medicine resident should demonstrate the ability to independently perform or appropriately refer the following:

1. Assessment of surgical risk/performance of preoperative evaluation
 - a. Perform physical assessment
 - b. Obtain medical history and do medication review
 - c. Obtain indicated radiographic and noninvasive diagnostic procedures
 - d. Discuss advance directives and end-of-life care in the event of surgical catastrophe

2. Performance of or referral for common invasive diagnostic procedures
 - a. Paracentesis
 - b. Nasogastric lavage
 - c. Thoracentesis
 - d. Bladder aspiration
 - e. Central venous access (central venous pressure, Swan-Ganz catheter)
 - f. Venous cutdown
 - g. Arterial puncture and catheterization
 - h. Needle aspiration and biopsy technique

3. Recognition of the need for emergent surgical techniques
 - a. Cricothyroidotomy
 - b. Needle thoracostomy
 - c. Pericardiocentesis

4. Development of 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. Ability to manage fluid replacement
- g. Ability to perform wound closure
 - i. Technique selection (ligature, staples, adhesives)
 - ii. Suture selection
 - iii. Drains
 - iv. Dressings
5. Ability to do postoperative care
 - a. Suture removal
 - b. Dressing changes
 - c. Drain removal
6. Ability to perform 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 closure, laceration repair
 - i. Wound debridement
 - j. Enucleation and excision of external thrombotic hemorrhoid
 - k. Nail surgery
7. Ability to counsel about advance directives, organ donation, and end-of-life issues
8. Ability to treat venous stasis ulcers, arterial ulcers, and neuropathic ulcers
9. Ability to treat decubitus ulcers

Systems-Based Practice

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

- Understand types of insurance coverage and how coverage impacts a patient's ability to obtain surgical consultation or undergo surgical procedures and place of service requirements
- Navigate within the local health care insurance environment to refer and optimize timely care for patients needing surgery
- Help coordinate the care of a surgical patient across the ambulatory, inpatient, and skilled nursing environments

Interpersonal and Communication Skills

At the completion of residency, a family medicine resident should demonstrate competence in the following communication skills:

- Recognize 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
- Demonstrate the ability to work with the rest of the care team (e.g., registered dietitians, respiratory therapists, physical and occupational therapists, anesthesia) to optimize the pre-, peri-, and post-operative course of the surgical patient
- Demonstrate the ability to communicate effectively with the patient, as well as with the patient's family and caregivers, to ensure that the diagnosis, surgical and nonsurgical options, and treatment plans are clearly understood
- Demonstrate the ability to communicate effectively with the surgeon, supervisor, or consultant about the patient's symptoms, physical findings, test results, and proposed plan of care
- Demonstrate sensitivity to concerns and anxieties of the patient and the patient's family members regarding the potential for surgical intervention

Professionalism

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

- Intervene effectively and professionally in emergent surgical situations
- Articulate acceptance of the patient's right to self-determination while providing empathy
- Have awareness of and willingness to overcome their own biases, attitudes, and stereotypes regarding surgical illness and social diversity, as well as recognition of how attitudes and stereotypes affect patient care
- Demonstrate sensitivity and responsiveness to different patient populations or patients who may have unique care needs, including, but not limited to, diversity in age, gender, race and ethnicity, religion, economic status, sexual orientation, and disability
- Recognize and adhere to an appropriate scope of practice and seek consultation with other health care professionals when indicated to provide optimal care

Practice-Based Learning and Improvement

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

- Apply principles of evidence-based medicine to surgical decision-making
- Continue to pursue self-education about new surgical techniques, imaging, and

procedures in order to refer effectively and help patients make informed surgical decisions

Resources

American College of Surgeons. *ATLS: Advanced Trauma Life Support (Student Course Manual)*. 10th ed. American College of Surgeons; 2018.

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Smilowitz NR, Berger JS. Perioperative cardiovascular risk assessment and management for noncardiac surgery: a review. *JAMA*. 2020;324(3):279-290.

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Zuber TJ, Mayeaux EJ Jr. *Atlas of Primary Care Procedures*. 2nd ed. Lippincott Williams & Wilkins; 2004.

Website Resources

Academic Life in Emergency Medicine. VIPER: Video Instruction of Procedures in the ER. Wound Closure. <https://www.aliem.com/videos/>

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

Developed 02/1999 by the Bryn Mawr Family Practice Residency Program

Revised 01/2004

Revised 01/2008

Revised 06/2013 by Kaiser Permanente San Diego

Revised 07/2017 by University of Texas Austin Dell Medical School Family Medicine Residency Program

Revised 09/2021 by Dignity Health Family Medicine Residency & Primary Care Sports Medicine

Fellowship at Northridge (Affiliated with the David Geffen School of Medicine at UCLA)