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 drug 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 dieticians, 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


Pickett H. Shave and punch biopsy for skin lesions. Am Fam Physician. 2011;84(9):995-1002.


**Website Resources**


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