

ACS/APDS/ASE Resident Prep Curriculum - Goals & Objectives

The Goals and Objectives described herein are intended to support an M4 preparatory curriculum to be delivered in the final months of the M4 medical student year prior to the beginning of surgical internship. This curriculum should be viewed as a “finishing curriculum” focused heavily on the application of accumulated knowledge and skills to the care of the surgical patient. It is specifically NOT intended to cover material that should be mastered during the M3 clerkship or on M4 Sub-internship rotations. The ultimate goal is to improve upon the consistency of the finished medical school product with respect to readiness to begin surgical internship regardless of where one attended medical school. The associated assessments that result from this curriculum will hopefully also provide Program Directors with a clear needs assessment for an individual intern as the trainee begins residency.

***Blue text indicates those items highlighted on pages 3-4 of the ACGME Frequently Asked Questions: Surgery relating to the Supervision Requirements** VI.D.5.a).(1).(c)*

Patient Care and Medical Knowledge

Goal #1: Demonstrate the ability to write comprehensive and appropriate orders for surgical patients.

Objectives:

1. Outline and apply the common components of preoperative orders.
 - Describe the indications and options for perioperative venous thromboembolism prophylaxis.
 - Detail the appropriate timing, dosing and indications for preoperative antibiotics.

2. Outline and apply the common components of admission and post-operative orders.
 - Discuss the options for postoperative analgesia, including epidural, intravenous and oral.
 - Write an order for postoperative patient-controlled analgesia.
 - Describe the appropriate dosing of the most common narcotic medications.
 - Determine routine maintenance fluid requirements based upon age and clinical problem and write orders for them.
 - Outline the major determinants of additional fluid requirements in the surgical patient.
 - Outline the preoperative and postoperative monitoring and control of blood glucose in the diabetic patient.
 - Outline the options for post-operative VTE prophylaxis in specific patient populations and describe appropriate dosing for prophylactic subcutaneous fractionated or unfractionated heparin products.
 - Demonstrate the ability to write a complete set of admission orders for a real or virtual surgical patient.

- Demonstrate the ability to complete a succinct, comprehensive discharge/transfer summary.

Goal #2: Demonstrate the ability to manage common electrolyte abnormalities in the surgical patient.

Objectives:

1. Identify the signs and symptoms of

- Hypokalemia
- Hyperkalemia
- Hyponatremia
- Hypernatremia
- Hypocalcemia
- Hypercalcemia

2. Outline the management of and write appropriate orders for patients with the following electrolyte derangements:

- Hypokalemia
- Hyperkalemia
- Hyponatremia
- Hypernatremia
- Hypocalcemia
- Hypercalcemia
- Hypomagnesemia
- Hypophosphatemia

Goal #3: Demonstrate the ability to interpret common ancillary testing performed in the surgical patient.

Objectives:

1. Interpret normal and common abnormal findings on radiographs of the abdomen and chest.
2. Interpret a standard 12-lead EKG and identify common abnormalities.
3. Read a rhythm strip and accurately identify common abnormalities.
4. Interpret renal function lab abnormalities, specifically elevated BUN and/or Cr, calculate the FENa and interpret the results.

Goal #4: Establish the fundamentals of basic perioperative care of the surgical patient.

Objectives:

1. Manage the patient with thromboembolism:
 - Describe the signs of an acute deep vein thrombosis.
 - Manage a patient with a diagnosis of an acute deep vein thrombosis.
 - Describe the signs of an acute pulmonary embolus.
 - Manage a patient with a diagnosis of an acute pulmonary embolus.
 - Write orders for therapeutic anticoagulation in a postoperative patient with an acute VTE event.

2. Identify and manage the patient with common or urgent perioperative problems:
 - Fever
 - Chest pain
 - Arrhythmia
 - Hypotension
 - Hypertension
 - Respiratory distress/Shortness of breath
 - Tachycardia
 - Mental status changes/Unresponsiveness
 - Hypoxemia
 - Oliguria/Anuria
 - Urinary retention
 - Nausea/Vomiting
 - Hyperglycemia
 - Compartment syndromes

3. Apply the basics of perioperative steroid use in patients requiring replacement (i.e., steroid taper), and describe the classic signs/symptoms/lab abnormalities present in a patient with adrenal insufficiency.

4. Detail the standard dosages for commonly used antibiotics.

5. Describe the role of and contraindications for benzodiazepines and Haldol in the periop patient, particularly the elderly.

Goal #5: Demonstrate the ability to safely function in the role of first responder to an urgent or emergent patient care situation.

Objectives:

1. Demonstrate the ability to follow ACLS protocols when responding to patients in cardiac or respiratory arrest.
2. Demonstrate the ability to appropriately prioritize tasks as the dynamics of a patient's needs change.
3. Demonstrate the ability to obtain a patent airway (including Bag-Mask ventilation) and to establish IV access to support resuscitation. (*Technical Skills overlap*)
4. Demonstrate the ability to appropriately direct other members of the team to facilitate the care of the patient in an urgent or emergent patient care situation.

Technical Skills

Goal #1: Demonstrate the appropriate use of universal precautions and the ability to maintain sterile technique.

Objectives:

1. Discuss role of universal precautions in all patient care settings, including utilization of contact precautions and infection control principles.
2. Demonstrate ability to maintain sterile technique in prepping and draping a patient for a procedure.

Goal #2: Demonstrate proficiency in performing bedside procedures.

Objectives:

1. Outline appropriate drain management protocols for various types of surgical drains and tubes, including safe removal.
2. Describe indications for staple or suture removal under various conditions, and demonstrate the ability to remove staples and apply Steri-strips.
3. Describe differences in nasogastric and nasojejunal tubes and indications for placement of each type.

4. Demonstrate proficiency in placing a nasogastric and nasojejunal tube.
5. Demonstrate proficiency in placing a urinary catheter.
6. Demonstrate proficiency in performing venipuncture and inserting a peripheral IV catheter.
7. Utilize Doppler and ultrasound to identify relevant vasculature to facilitate safe placement of intra-vascular catheters.
8. Demonstrate proper technique for placement and removal of a central venous catheter.
9. Demonstrate the ability to identify landmarks and to utilize proper technique for performing arterial puncture for arterial blood gas measurement or placement of an arterial line.

Goal #3: Demonstrate proficiency in basic suturing and knot tying techniques.

Objectives:

1. Describe different suture materials and their appropriate applications.
2. Demonstrate proper technique for handling of basic surgical instruments (needle holder, hemostatic clamps, forceps).
3. Demonstrate proper technique for performing simple interrupted, subcuticular, simple running, and vertical mattress suturing.
4. Demonstrate proper technique for performing one and two handed knot tying.
5. Demonstrate proper technique for tying around a clamp (both free hand and instrument passes).

Goal #4: Demonstrate proficiency in performing minor procedures.

Objectives:

1. Demonstrate ability to properly dose and administer local anesthetics.
2. Demonstrate proper technique for excision of lesions of the skin and subcutaneous tissues.
3. Demonstrate proper technique for skin and soft tissue closure and repair of lacerations.
4. Demonstrate ability to incise and drain a superficial abscess.
5. Identify indications and demonstrate proper technique for use of skin closure glues.

Goal #5: Demonstrate understanding of basics of wound care and management.

Objectives:

1. Demonstrate proper technique for applying various types of surgical dressings and describe indications for each.
2. Describe available wound management systems and understand the indication and risks for each.
3. Describe the signs and management of a postoperative superficial site infection.
4. Delineate indications for superficial wound debridement and describe appropriate techniques.

Goal #6: Demonstrate proficiency in performing emergency procedures.

Objectives:

1. Demonstrate proficiency in performing bag mask ventilation.
2. Demonstrate proficiency in performing endotracheal intubation.
3. Demonstrate ability to perform CPR in accordance with ACLS protocols.
4. Describe indications for needle thoracostomy and demonstrate performance in an inanimate model.
5. Describe indications for tube thoracostomy and demonstrate performance in an inanimate model.

Goal #7: Prepare for participation in the operating room.

Objectives:

1. Identify common surgical instruments by name that are utilized in the operating room and describe the appropriate use for each.
2. Demonstrate ability to perform basic laparoscopic skills in a simulated environment.
3. Review and demonstrate the proper technique for utilization of surgical staplers.
4. Review and prepare for the safe and appropriate use of surgical energy devices.
5. Describe the risk factors for and management of an intra-operative fire.

6. Describe the elements of and perform a pre-procedural Time-Out.
7. Perform intern level procedures in a cadaver, animate or simulated lab setting under the supervision of a faculty member.
8. Dictate a cohesive and articulate operative report for a procedure performed in a cadaver, animate, or simulated lab setting.

Professionalism

Professionalism is based on the principles of primacy of patient welfare, patient autonomy, and social justice. It involves the following professional responsibilities: competence, honesty, patient confidentiality, appropriate relations with patients, improving quality of care, improving access to care, just distribution of finite resources, commitment to scientific knowledge, maintaining trust by managing conflicts of interest, commitment to professional responsibilities. The resident (and the senior medical student who is entering surgical residency) must demonstrate commitment to carrying out professional responsibilities, adherence to ethical principles, and sensitivity to a diverse patient population.

Goal #1: Demonstrate professional behavior in serving a diverse patient population.

Objectives:

1. Demonstrate the ability to consider and respond to the potential unique treatment needs of a patient that are related to age, culture, gender, and disabilities.
2. Display compassionate communication skills and nonjudgmental behaviors.

Goal #2: Identify professional and unprofessional behavioral traits in surgical trainees.

Objectives:

1. Discuss the importance of timeliness as it relates to professional behavior (for example, clinic activities, documentation, timeliness for the operating room).
2. Discuss or model constructive means of resolving unprofessional behavior in the training environment.
3. List 3 ways to demonstrate dependability as it pertains to patient care.

Goal #3: Develop strategies for addressing professionally challenging situations in surgical residency.

Objectives:

1. Identify boundaries for healthy and appropriate physician-patient relationships through specific sample cases.
2. Develop strategies to professionally respond to situations involving breach of patient confidentiality.
3. Demonstrate compassion, integrity, and respect in the workplace as it relates to professional relationships through the use of standardized scenarios portraying difficult professional interactions (e.g., with patients or co-workers).
4. Discuss tools for recognizing when an individual is overburdened with duties that cannot be completed within a given time and review strategies for addressing such situations.
5. Identify signs and symptoms of fatigue.
6. Discuss and review the ACGME resident duty hour requirements and identify professional situations in which it is acceptable to remain engaged in patient care activities beyond the duty hour restrictions.

Goal #4: Understand the impact of social media in the workplace.

Objectives:

1. Identify the positive effects of social media in our healthcare workplace, for example, with regard to promoting medical successes.
2. Identify the negative sequelae of social media in the healthcare workplace, including issues such as posting sensitive information on social networks (Facebook, Twitter, etc.).

Interpersonal Skills and Communication

The resident (and the senior medical student who is entering surgical residency) must be able to demonstrate interpersonal and communication skills that result in effective information exchange and teaming with patients, their patients families, and professional associates. The learner is expected to create and sustain a therapeutic and ethically sound relationship with patients; to use effective listening skills and elicit and provide information using effective nonverbal, explanatory, questioning, and writing

skills; and to work effectively with others as a member or leader of a healthcare team or professional group.

Goal #1: Delineate the negative connotations of communication failures.

Objectives:

1. Review or model the potential consequences of failure to communicate, including the impact of ineffective modes of communication.
2. Discuss the impact, from the patient's perspective, of a patient-physician interaction where a physician is perceived as being dishonest or withholding information.
3. Model or discuss adverse outcomes that can stem from a failure to listen.
4. Review the consequences of failing to return calls in a timely fashion.
5. Review or model the potential patient perspective which may occur when a physician uses inappropriate body language.
6. Discuss the potential consequences of failing to follow through on tasks.

Goal #2: Demonstrate proficiency in disclosing complications.

Objectives:

1. Provide a framework for evaluating the facts surrounding the adverse event (e.g., presence of error or system failure, results of event analysis, etc.).
2. Demonstrate appropriate language and communication techniques for expressing regret for unanticipated outcomes, and for providing a formal apology if an unanticipated outcome was caused by an error or system failure.
3. Discuss the importance of communicating with the family after the event to provide some closure to the complication and to demonstrate that the adverse event has not been forgotten.

Goal #3: Develop effective techniques for working with difficult patients.

Objectives:

1. List 3 strategies for approaching patients that are noncompliant with a prescribed care plan.

2. Describe techniques for managing patients who are resistant to alliance with their healthcare team.
3. Develop strategies for effectively addressing the following difficult patient phenotypes:
 - “dependent clingers”
 - “entitled demanders”
 - “help-rejecting complainers”
 - “self-destructive deniers”

Goal #4: Effectively interact and communicate with all members of the healthcare team.

Objectives:

1. Describe the multi-faceted nature and diverse roles existing within a contemporary healthcare team, e.g., nurses, OR personnel, other physicians, respiratory therapists, physical therapists, social workers, discharge planners, quality improvement personnel, care navigators, registry personnel, chaplains, palliative care team, etc.
2. Identify or model optimal approaches for reporting patient care or professional concerns in an effective manner and to whom.
3. Discuss the value of respect in working with other healthcare professionals.
4. Demonstrate effective and professional communication with nurses and/or other non-physician medical professionals through standardized or real clinical scenarios (e.g., mock page exercises).
5. Demonstrate effective communication styles with patients through real or standardized clinical scenarios.
6. Demonstrate effective methods for querying faculty members and senior residents regarding their thought processes that underpin their decision-making.

Goal #5: Effectively handoff patient information during transitions of care.

Objectives:

1. Describe and model methods of standardized patient care handoffs such as SBAR, TEAM steps, etc.
2. Describe the necessary elements of a secure electronic means for providing key patient information to support handoffs.

3. Discuss the importance of clearly delineating who is ultimately responsible for the care of an individual patient at each point of care transition.

Goal #6: Demonstrate a working knowledge of the appropriate communication involved in the informed consent process.

Objectives:

1. List the important elements of the informed consent process.
2. Describe three pitfalls in the informed consent process that trainees commonly experience.

Practice-Based Learning and Improvement

Goal #1: Develop an effective strategy for self-directed learning.

Objectives:

1. Develop a personalized reading plan to cover the core topics of general surgery.
2. Create a realistic study plan for the ABSITE.
3. Summarize appropriate resources to be used for ABSITE preparation.
4. Identify and access residency program supported resources (e.g., ACS FSC, SCORE, Evidence Based Reviews in Surgery, Selected Readings, Access Surgery).
5. Review the proper steps for preparing for an operation and identify resources to assist with this process.

Goal #2: Effectively access, analyze, and utilize the scientific literature.

Objectives:

1. Perform PubMed searches using key search terms to find desired scientific literature.
2. Identify alternative resources for obtaining scientifically valid therapeutic guidance (e.g., Medscape, Up-to-Date).
3. Describe the limitations and pitfalls in using Wikipedia and/or physician-to-physician online advice.

Goal #3: Utilize evidence-based medicine principles.

Objectives:

1. Summarize local and national clinical practice guidelines used in the care of surgical patients (e.g., DVT prophylaxis, perioperative use of beta-blockers, NCCN guidelines for cancer care, trauma protocols).
2. Give examples of areas in surgery where conclusive scientific evidence for guideline development is lacking.
3. Describe potential flaws and risks of extrapolating data for use in different patient populations.

Goal #4: Report and reflect on all patient complications for performance improvement.

Objectives:

1. Discuss the importance of self-reflection and incorporation of formative feedback into daily practice.
2. Review the importance of reviewing all complications, near-misses, and errors with a focus on future prevention of similar events.
3. Utilizing a mock or real clinical care scenario with an associated complication, deliver an effective presentation reviewing the complication, similar to a morbidity and mortality conference presentation including key elements of patient history, and relevant scientific literature.
4. Describe the role of morbidity and mortality conference in healthcare quality and patient safety.
5. Summarize the principles and importance of root cause analysis and sentinel event reporting.

Systems Based Practice

Goal #1: Optimally utilize the medical record.

Objectives:

1. Demonstrate the ability to efficiently navigate an electronic or written health record to facilitate care for a patient.
2. Demonstrate the ability to appropriately document the following in a patient's chart:
 - Progress Note
 - Operative Note
 - Consult Note
3. Demonstrate the ability to appropriately document supervision and chain of command for decisions, e.g., "Discussed with Dr. X".
4. Demonstrate the ability to disagree in a professional manner with consultants in writing.

Goal #2: Effectively coordinate patient care from admission to discharge.

Objectives:

1. Describe scenarios in which a meeting should occur with a patient's family and health professionals to discuss goals of care.
2. Describe factors predicting a patient's need for home care and means by which it can be facilitated.
3. Identify resources for end of life and palliative care.
4. Identify methods for obtaining urgent testing during and after regular hours.
5. Describe when the coroner's office, organ donation personnel, or police should be contacted.

Goal #3: Apply the use of medical legal principles to surgical patient care.

Objectives:

1. Identify what events require notification of risk management and the optimal timing of this notification.
2. Describe the role of risk management personnel in alleviating patient concerns.
3. Describe the liability risks of a resident participating in the care of patients.

Goal #4: Understand and implement national, state and local patient safety and privacy initiatives.

Objectives:

1. Demonstrate knowledge of JCAHO and HIPAA requirements for patient care.
2. Describe or model appropriate application of SCIP requirements.
3. Discuss national surgical patient safety initiatives such as NSQIP.