

## Perioperative Care

### Assumption

The student is able to perform a complete history and physical examination, and has a basic understanding of pharmacology, physiology, and metabolism.

### Goal

The student will be able to describe the important issues related to perioperative care of surgical patients. In addition, the student will understand the risks and potential complications associated with a surgical intervention.

### Objectives

By the end of the core surgical clerkship, the student will be able to:

1. Describe features of a patient's clinical history that influence surgical decision making. The student should consider known diseases, risk factors, urgency of operation, medications, etc.
2. Discuss tools that may assist in preoperative risk assessment. Consider laboratory studies, imaging studies, etc. Include the following:
  - a. Pulmonary (exercise tolerance, pulmonary function testing)
  - b. Cardiovascular (ASA classification, Goldman criteria, echocardiography, thallium studies, Doppler studies)
  - c. Renal (BUN/Cr, dialysis history)
  - d. Metabolic (nutritional assessment, thyroid function)
3. Compare and contrast anesthetic risk factors. Consider the following variables:
  - a. Age: neonates to geriatrics
  - b. Urgency of intervention
  - c. Emergent versus elective surgery
  - d. Associated conditions (pregnancy, diabetes, COPD, valvular or ischemic heart disease, cerebral/peripheral vascular disease, renal insufficiency, etc.)
4. Discuss perioperative nutritional assessment.
5. Compare and contrast enteral versus parenteral administration.
6. Discuss the components of informed consent. *Refer to Informed Consent module.*
7. Describe the indications and efficacy of various monitoring techniques.
8. Discuss conditions that potentially interfere with fluid and electrolyte homeostasis in the perioperative period, and describe strategies for replacement /monitoring including:
  - a. Effects of bowel preparation
  - b. NPO status
  - c. NG drainage
  - d. Dialysis
  - e. Operative losses
9. Describe factors that might impair coagulation or increase risk of bleeding.

### Problems

For each of the following problems, answer the following questions:

- What data should be obtained from the patient's history?
- What physical exam findings would you look for?
- What tests are necessary to ensure that the patient safely has the procedure that is necessary?

## Perioperative Care (continued)

### Problems (continued)

1. A 75-year-old man with history of IDDM, HTN, and is S/P MI is undergoing laparotomy for colon cancer. What tests are necessary in the preoperative period and what monitoring is required in the operating room? What if the patient is on anti-coagulants?
2. A 50-year-old woman with history of cirrhosis and coagulopathic bleeding comes to the office with an umbilical hernia. She is asymptomatic. Discuss whether or not she should be operated on and why.

### Skills

1. Conduct a focused history and physical examination to include abdominal, pelvic and rectal exams.
2. Effectively assess the patient's risk for the procedure.
3. Describe the components and demonstrate the ability to formulate:
  - a. A brief operative note.
  - b. The postoperative note.
  - c. The Pre/postoperative orders.

### Teaching Hints

1. Present the case of a patient with multiple medical problems and assess what, if any, procedures or tests are needed.
2. Understand the use of the risk calculators that are available in assessing the patient's risks and benefits of surgery.
3. Understand the use of nutritional assessments of patients preoperatively
  - a. Consider history, physical and laboratory findings.
  - b. Consider the most common forms of nutritional and deficiency disorders (protein-calorie malnutrition, chronic alcoholism, iron and B12 deficiencies, malabsorption syndromes, and requirements of the morbidly obese).
4. Emphasize the importance of early enteral feeds for patients.
5. Understand the indications and complications of total parenteral nutrition.
6. Understand the use of blood products in the operating room.
7. Discuss the use of invasive versus noninvasive monitoring.
  - a. Consider the following: vital signs, I&O, arterial lines, pulse oximetry, ABG, ECG, CVP, ICP, echocardiography, etc.

### Prevention

Anticipate the complications that may occur in patients with multiple comorbidities or nutritional depletion.

### Special Considerations

Discuss perioperative care in these situations:

1. Nutritionally depleted patients
2. Perioperative care of the pediatric patient
3. Preventative strategies and management of alcohol withdrawal syndrome