

Vanderbilt University Medical Center
Emergency General Surgery Service
Surgical Residency Rotation and Curriculum

UNIT 6 CLINICAL, LABORATORY, AND SURGICAL PATHOLOGY

UNIT OBJECTIVES:

1. Demonstrate an understanding of the pathogenesis of benign and malignant surgical disease.
2. Develop competency in the diagnosis and management of human organ pathology.
3. Demonstrate a working understanding of the principles of surgical pathology.
4. Demonstrate competence in the acquisition and interpretation of surgical specimens.
5. Apply clinical and laboratory data to diagnose disease processes and to institute appropriate disease management.

Section One: CLINICAL PATHOLOGY

COMPETENCY-BASED KNOWLEDGE OBJECTIVES:

1. Discuss the pathogenesis, clinical significance, signs and symptoms, and therapy for:
 - a. Derangements of normal wound healing
 - b. Fluid and hemodynamic derangements including shock, edema, congestive heart failure
 - c. Disorders of coagulation and hemostasis, including complications of: hemorrhage, disseminated intravascular coagulation (DIC), deep venous thrombosis (DVT), pulmonary embolism (PE)
 - d. Disorders of the immune system, especially hypersensitivity reactions and autoimmune disease
 - e. Infectious diseases involving bacteria, viruses, fungi, or parasites
 - f. Neoplastic disease
2. Explain the rationale for selecting the appropriate surgical procedures based on:
 - a. Staging of malignant disease
 - b. Preservation of function in the surgical treatment of benign disease (e.g., peptic ulcer disease, Crohn's disease, anal disorders, vascular disease)
 - c. Balance between operative risk and benefit

COMPETENCY-BASED PERFORMANCE OBJECTIVES:

1. Recognize the early signs and symptoms and initiate therapy for the following:
 - a. Alterations of normal wound healing including infection and disruption
 - b. Fluid and hemodynamic derangements
 - c. Disorders of coagulation and hemostasis
 - d. Disorders of the immune system

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- e. Infectious diseases involving bacteria, viruses, fungi, or parasites
 - f. Neoplastic disease
2. Participate in deciding the appropriate surgical procedure for benign and malignant disease.
 3. Monitor patients for possible postoperative complications and institute appropriate diagnostic studies and therapy for such conditions as:
 - a. Wound infections
 - b. Atelectasis/respiratory compromise
 - c. Cardiac dysrhythmias/myocardial infarction
 - d. Ileus
 - e. Urinary retention
 - f. Deep venous thrombosis/pulmonary embolus
 - g. Systemic infection

Section Two: LABORATORY PATHOLOGY

COMPETENCY-BASED KNOWLEDGE OBJECTIVES:

1. Identify significant components for each of the following:
 - a. A complete blood count
 - b. The meaning of "left shift"
2. Analyze causes for artificially abnormal laboratory values, including:
 - a. Specimen hemolysis
 - b. Impact of hyperglycemia
 - c. Impact of hypoalbuminemia
6. Discuss the typical presentation of microbiologic data, and the importance of the following:
 - a. Specimen identification and timing of sample
 - b. Organism identification
 - c. Drug sensitivity profile
 - d. Minimum inhibitory concentration
 - e. Beta-lactam resistance
 - f. Resistance
 - g. Colonization
 - h. Contaminated specimen

COMPETENCY-BASED PERFORMANCE OBJECTIVES:

1. Identify the indications for routine preoperative laboratory studies, recognize clinically significant abnormalities, and provide appropriate management.
2. Manage the postoperative course of patients, using relevant laboratory studies (including their indication, relevance to clinical condition, and continued need).
3. Modify patient's infectious disease treatment plan using data from a microbiology report.