

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

**UNIT 5**                      **NUTRITION**

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**UNIT OBJECTIVES:**

1. Demonstrate a working knowledge of the methods of nutritional assessment and routes of nutritional support.
2. Demonstrate an understanding of the metabolic consequences of surgical disease and the need for nutritional support.
3. Demonstrate an understanding of the unique nutritional concerns for specific clinical conditions.

**COMPETENCY-BASED KNOWLEDGE OBJECTIVES:**

1. Discuss risk factors contributing to malnutrition in the hospitalized patient, including:
  - a. Low nutritional reserve
  - b. Extensive preoperative studies
  - c. Lack of oral (PO) intake secondary to underlying disease
  - d. High stress conditions
2. Summarize the characteristics of the indicators for nutritional assessment, including:
  - a. Weight loss greater than 10% of body weight
  - b. Serum albumin less than 3.4 gm/dl
  - c. Impaired immunologic response: anergic response and total lymphocyte count (TLC) less than 1500/cc
  - d. Specific physical signs
3. Explain methods of calculating energy requirements, including:
  - a. Simple estimate (resting: 20 kcal/kg-d; moderate stress: 30 kcal/kg-d; severe stress: 40 kcal/kg-d)
  - b. Harris-Benedict Equation
  - c. Nitrogen balance
  - d. Indirect Calorimetry (Metabolic Cart)
5. Analyze the metabolic responses to starvation and stress.

**COMPETENCY-BASED PERFORMANCE OBJECTIVES:**

1. Perform nutritional assessment of hospitalized patients.
2. Select appropriate methods of nutritional support, and provide necessary monitoring.
3. Calculate nutritional requirements for patients with:
  - a. Pancreatitis
  - b. Enterocutaneous fistula
  - c. Stress
  - d. Necrotizing fasciitis
4. Insert enteral and parenteral tubes and lines.

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5. Manage nutritional support in patients with specific clinical conditions listed above.
6. Recognize and correct the subtle caloric and vitamin imbalances in patients receiving TPN.
7. Perform operative gastrostomies, jejunostomies, and percutaneous endoscopic gastrostomies.
8. Recognize and treat complications of enteral and parenteral feeding, including:
  - a. Diarrhea
  - b. Dehydration
  - c. Line sepsis
  - d. Fatty metamorphosis of liver
  - e. Glucose intolerance