Unit 1: Parenteral Nutrition
ONLINE CONTENT (0.5 H)

Unit Objectives:

- Select appropriate nursing interventions to manage common problems and needs of critically ill patients. (1,6,)*
- Explain the indications, complications, and nursing management related to the use of parenteral nutrition. (1,2)*

*Course Objectives

Assignment:

Review the required TPN/PPN document and section in the book as described in the course outline and place your answers to the following questions in the Unit 1: Parenteral Nutrition dropbox by 0800 on 1/09/2026.

In order to receive full credit (0.5H class time) for this assignment, it must be completed in its entirety by the due date/time assigned. Any assignment not completed in its entirety will result in missed class time and must be completed by the end of the semester to pass the course.

1. What are some important components to include in a nutritional assessment?

A. History & Intake Patterns

- Recent dietary intake and appetite changes
- Weight trends (loss/gain, rate of change)
- Ability to chew, swallow, or tolerate oral intake
- GI symptoms affecting intake (nausea, vomiting, diarrhea, malabsorption)
- Metabolic demands (infection, trauma, respiratory failure)

B. Physical Assessment

- Similar to how Lewis emphasizes airway assessment cues, nutritional assessment focuses on objective signs: Dry, scaly skin; poor turgor
- Brittle nails, hair loss
- Oral mucosal changes (ulcers, crusting, glossitis)
- Muscle wasting, decreased strength
- Ill-fitting dentures or dental caries

C. Anthropometric Measurements

- Height, weight, BMI
- Skinfold thickness
- Mid-arm muscle circumference

D. Laboratory Indicators of Nutritional Status

- Albumin, transferrin, prealbumin
- Total protein
- Creatinine-height index
- Total lymphocyte count

2. What are the indications for TPN?

When the body cannot maintain adequate function independently

- Nonfunctional GI tract (obstruction, ileus, severe malabsorption)
- Need for long-term nutritional support (≥3 weeks)
- Severe malnutrition or inability to meet needs orally/enterally
- High metabolic demand requiring aggressive nutritional support
- Need for bowel rest (pancreatitis, fistulas, severe IBD)
- Support for wound healing and tissue synthesis

3. What are potential labs that may be ordered on the patient receiving TPN or PPN?

As important for continuous monitoring for ventilated patients, TPN requires ongoing metabolic surveillance:

A. Metabolic & Electrolyte Monitoring

- Sodium, potassium, magnesium, calcium, phosphorus
- Serum glucose (frequent checks initially)
- Triglycerides

B. Nutritional Markers

- Albumin
- Transferrin
- Prealbumin (transthyretin)
- Total protein
- **C. Hematologic & Organ Function**
- Hemoglobin & hematocrit
- Creatinine-height index
- Total lymphocyte count
- **D. Additional Monitoring**
- Urine ketones (carbohydrate deprivation)

4. How frequently should TPN tubing get changed?

Using the same infection-prevention emphasis for ventilator-associated pneumonia:
TPN tubing must be changed every 24 hours.
This prevents bacterial growth in high-glucose solutions (“meals on wheels for bacteria”).

5. Match the common central line catheter problems with the correct nursing action.

___B_ Clotted Catheter	b. Use alteplase as ordered
___C_ Cracked tubing	c. Clamp tubing between patient and point of air entry
___D_ Dislodged catheter	d. Remove catheter and apply sterile pressure dressing
___A_ Infusion too rapid	a. Use infusion pump, check rate, check pump