Types of Central Venous Access Devices

1. PICC (Peripherally inserted central catheter)
   - Inserted in the antecubital fossa and advanced to the subclavian vein or superior vena cava.
   - Used for intermediate duration of therapy (7 days to 6 months), but may be used as long as there are no complications.
   - Advantages: less risk of pneumothorax, hemothorax, air embolism, cost effective, less risk of infiltration and phlebitis.
   - Complications: migration (measure q shift), infection, clotting off, leaking, breaking (keep hemostats readily available).
   - Size 24 – 16 gauge, 16 – 26 inches. May be double lumen.
   - Uses: infuse fluids, PN, blood (if large gauge), medications.
   - In Ohio RNs must be PICC certified in order to insert this type of IV.

2. Central Venous Catheters (CVCs)
   - Tunneled
     - Surgically inserted through a tunnel made through the subcutaneous tissue between the clavicle and nipple. Catheter tip is inserted into the jugular or other large vein and advanced to the right atrium. Held in place by a Dacron cuff.
     - Advantage: tunnel creates space between the end of the catheter and the actual vein which decreases the risk of infection. Good for long-term therapy. Convenient and easily hidden from view.
   - Percutaneous
     - Inserted directly into the jugular or subclavian vein.
     - Frequently used for PN.
     - Pneumothorax and hemothorax can occur during insertion.
     - Watch for s/s of infection at site.

3. Implanted Infusion Ports
   - Surgically implanted infusion port placed below the clavicle (infraclavicular fossa), catheter threaded into right atrium through large vein.
   - Accessed via non-coring Huber needle.
   - Port is heparinized every 4 weeks when not in use.
   - Used for medications, chemotherapy, PN, blood.
   - Easy to maintain for home-based therapy.
Parenteral Nutrition (PN)

- Used in clients who cannot obtain nutrition through the GI tract.
- Comprised of amino acids (proteins), dextrose (carbohydrates), fat emulsions (fatty acids), vitamins, minerals, trace elements, electrolytes.
- Always compare label to physician’s order.
- Hyperosmolar solutions require large vein access to prevent sclerosis of vein.
- Monitor the client for complications r/t parenteral nutrition: fluid, electrolyte, and glucose imbalances and infection.

Central Line Procedures

Role of LPN includes site monitoring, dressing change, and limited infusion of solutions. See Practice guidelines on page 1459 (Kozier & Erb, 8th ed.).

Dressing Change

- Apply clean gloves and mask. Ask client to turn head away from site or apply mask if he/she has infectious respiratory condition.
- Remove old dressing in the direction that the catheter was inserted to prevent pulling out catheter.
- Wash hands, open sterile supplies, and correctly apply sterile gloves.
- Clean site with chloroprep, ending with a swab down the tubing about 3 inches.
- FYI: If agency does not use chloroprep: Swab site with alcohol using concentric circles. Wait 60 seconds. Swab with betadine in same manner but end with swab down the tubing about 3 inches. Allow to dry 2 minutes.
- Cover with transparent dressing (opsite, tegaderm). Label with date, time and initials.