Central Line Simulation: Ongoing Care

After central line insertion, assess for signs and symptoms of infection and ongoing need for central lines on a daily basis. Take further actions for signs and symptoms of infections. Promptly remove central lines that are no longer needed.

A. Assess for signs and symptoms of infection during daily rounds:

1. Perform hand hygiene
2. Assess catheter sites visually or by palpation through the intact dressing

Positive findings:

1. Tenderness, redness, or drainage develops at the insertion site
2. Systemic indications suggesting bloodstream infection
    a. there is fever without an obvious source
    b. presence of chills, or hypotension.
    c. positive blood culture

Action: If findings are positive, the dressings should be removed, so the site can be thoroughly assessed and appropriate action taken including removal of the catheter. Evaluate ongoing need for central line and consider alternatives.

Do not palpate the site with non-sterile method and then replace dressing if the decision is for the line to remain in place.

Technique:

1. Obtain necessary supplies (UIH has central line dressing change kits.)
2. Hands are washed before dressing change.
3. Don clean gloves and mask.
4. Apply mask to patient, or if mask is not tolerated, ask patient to turn head to opposite side.
5. Remove old dressing and inspect site.
6. If you must palpate insertion site, perform hand hygiene first and don sterile glove(s).
7. After old dressing is removed, perform hand hygiene again and don sterile gloves before applying fresh dressing.
8. Clean site and catheter with sterile alcohol swabs
9. Apply chlorhexidine gluconate (CHG) using back and forth motion for at least 30 seconds, from insertion site to at least 4 inches out, including over and under catheter tubing. CHG is not recommended for infants<2 months.
10. Apply new securement device and CHG dressing as indicated.
11. Apply first transparent dressing, position to insure coverage of insertion site.
12. Press transparent dressing down to ensure good skin contact, making sure no air bubbles are trapped under the dressing.

Sterile technique ends here.

13. Label dressing with date, time and initials.
14. Apply second transparent dressing to overlap with first, making sure to cover catheter and tubing. Press down on transparent dressing to ensure good skin contact.
15. Dispose of tray and supplies properly
16. Perform hand hygiene.

B. **Evaluate the indication for use/need for the line to remain:** Daily evaluation of ongoing need for line should occur, regardless of results from assessment above.

Intravascular catheters, insertion technique, and site selection should be based on the clinical presentation and need while attempting to achieve the lowest possible risk for complications (infectious and noninfectious) for the anticipated type and duration of therapy.

Indications that a central line is still needed:

1. Pressor drugs to increase blood pressure
2. Fluid resuscitation
3. Total parenteral nutrition
4. Dialysis
5. Plasmapheresis
6. Chemotherapy
7. Ongoing IV antibiotics (If patient is on long term antibiotics requiring a central line, peripherally inserted central catheter [PICC] may be indicated).
8. Unable to obtain peripheral access when vascular access is needed

Action: Discontinue central line as soon as possible. Take proactive approach.

1. When possible, convert IV meds to oral
2. Attempt peripheral IV access
3. Consider central lines that carry a lower risk of infection (e.g. fewer lumen, PICC, tunneled catheters, cuffed ports).
4. Consider insertion sites that carry a lower risk of infection (e.g. subclavian vs. internal jugular).

C. **Documentation:** Add central venous access to daily progress note template and document:

1. Type of line
2. Days since insertion or date of insertion
3. Condition of insertion site
4. Indication for line to remain
5. Plan for removal

Notes relating to Guide wire exchanges:

1. Do not use guide wire exchanges routinely for non-tunneled catheters.
2. If possible and where appropriate avoid the use of a guide wire exchange to replace a malfunctioning non-tunneled catheter even if there is no evidence of infection.
3. Especially avoid the use of guide wire exchanges to replace a non-tunneled catheter suspected of infection unless alternative options are not available or are less desirable.
4. Use new sterile gloves before handling the new catheter when guide wire exchanges are performed.