PURPOSE: To maintain a sterile infusion line and insertion site by adhering to the standards of IV tubing changes.

DEFINITION(S):

1. **Peripheral IV lines**: Venipuncture into a peripheral vein of the extremities or a scalp vein. Routinely inserted by RNs. Used for administration of routine IV therapy.

2. **Central IV lines**: Venous access to a central vein in the torso. Access may be direct or via neck or peripheral route. Routinely inserted by a physician. PICC IVs are inserted by IV Therapy RNs. Used for hyperosmolar solutions, hemodynamic monitoring and when peripheral lines are contraindicated.

3. **Midline IV Lines**: Peripheral access inserted by IV Nurses and used for therapy lasting from 1 week up to 6 weeks.

KNOWLEDGE BASE:

1. If at all possible, nursing will attempt to coordinate the changing of sites, dressings, tubings, and intravenous solutions. Tubings will be changed at minimum by the established set intervals and will be coordinated with the solutions to be given. For example, if a solution is to be given over 18 hours and the tubing is to be changed every 24 hours, it would be appropriate to change the tubing when the solution is to be changed—at 18 hours—rather than waiting for 24 hours and having to discard the solution or waiting 36 hours to change the tubing.

2. Gloves will be worn for performing procedures involving potential contact with blood. Gloves may be unsterile except for procedures involving contact with normally sterile areas of the body.

INDICATIONS:

1. Tubings will be changed at the following intervals:

   a. **Peripheral IV lines**—Change routine IV tubing and Intravenous Piggyback (IVPB) tubing every 96 hours.

   b. **Central IV lines**—Change tubing every 96 hours and every 96 hours for pressure tubing.
2. Change tubing with TPN solution every twenty-four (24) hours for any type line.

3. Transfusions:
   a. Change tubing used for blood transfusions after saline flush following transfusion.
   b. Change tubing between units of multiple transfusions if the total tubing use time will exceed four (4) hours. If four (4) hours will elapse before two (2) units of blood products will infuse, change tubing after each unit.

   CAUTION NOTE: The risk of hemolysis and bacterial contamination rises dramatically after four (4) hours from the presence of residual blood in the tubing.

   c. Change tubing if clots develop or the filter clogs.

4. Tubing which accompanies special products (Albumin, Intralipids, etc.) is for one-time use with that product and is then discarded.

**EQUIPMENT:**

Assemble the following from the nursing unit:

1. Appropriate IV tubing
2. IV solution
3. Tape
4. Alcohol wipes
5. Sterile/unsterile gloves
6. Site dressings as appropriate
7. IV tubing label
8. Adapter (short extension tubing with needleless valve)

**PROCEDURE:** **PERIPHERAL LINES:** (including Midlines)

1. Wash hands and don gloves prior to changing tubing.

2. Select tubing of choice, write time changed on tubing label and apply below drip chamber.

3. Aseptically attach bag of correct solution to tubing and purge tubing of air. Replace sterile cap on end of tubing.
   a. If a valve is connected to the catheter hub, do not change it, as valves are replaced each time a new IV catheter is inserted.
   b. If no valve is present and tubing change is due, add a valve adapter at this time.
4. Close clamps on used tubing.
5. Inspect IV site for redness, tenderness, swelling or leaking.
6. If site is assessed as functional, continue with tubing change. If site is not functional, discontinue IV and restart.
7. Disconnect IV tubing from valve adapter. Swab with alcohol and connect new tubing to valve adapter.
8. Open clamp on new tubing. Adjust drip rate, Dial-A-Flo setting, or electronic regulator so that IV is infusing at prescribed rate.
9. Ensure that all connections are secure and taped for stabilization if Luer-lock not present.
10. Recheck infusion rate, adjusting as needed.

CENTRAL LINES (JUGULAR, SUBCLAVIAN, PICC):

1. Wash hands with an antiseptic soap and don gloves prior to changing tubing.
2. Explain tubing change and Valsalva maneuver to patient.
3. Select tubing of choice plus extension tubing. Write time changed on the tubing label and apply below drip chamber.
4. Aseptically attach bag of solution to tubing and purge tubing of air. Replace sterile cap on end of extension set.
5. Stop electronic regulator. Close clamps on used IV tubing.
6. Have patient lie supine.
7. Place sterile alcohol swab under catheter hub. Loosen tubing and catheter connection.
8. Disconnect tubing carefully as patient performs Valsalva maneuver and insert new tubing into catheter hub. If patient is unconscious or cannot cooperate with procedure, perform tubing change at end of expiratory phase.
9. Open clamp and resume IV infusion at ordered rate via electronic regulator.
10. Ensure that all connections are secure and taped for
11. Change site dressing if applicable per procedure. Only IV Therapy nurses may change PICC dressings.

12. Recheck infusion rate, adjusting as needed.

**DOCUMENTATION:**

Continuous Venous Access Record (CVAR): Document tubing changes in area provided.

**REFERENCE(S)**


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**APPROVAL:**

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