PURPOSE:
To maintain patency of a central venous catheter.

CONSIDERATIONS:
1. A central venous catheter (CVC) is a venous access device with the tip located in the superior vena cava. It provides access to the patient's circulation for the administration of any type of intravenous therapy including drawing blood for laboratory analysis.
2. Heparin flushing is to be done after every use of the catheter and once a day when not in use, with 1-5 mL of 100 units/mL of heparin solution or as ordered per physician. (Amount of heparin depends on type of CVC.) With a multi-lumen catheter, each lumen must be heparinized at least once a day and after every lumen use.
   [EXCEPTION - SEE PROCEDURE FOR GROSHONG CATHETER MAINTENANCE WHICH USES ONLY SALINE FOR IRRIGATION.]
3. Prior to interruption of the line, the connections should be cleaned with an alcohol applicator, using friction and allowed to air dry.
4. Connections may be secured with tape to avoid disconnection.
5. All connections must be luer-locks.
6. The intermittent injection port should be changed at least every 7 days or sooner if leaking, inadvertently disconnected, when drawing blood or if unable to flush all of the blood residue out of the intermittent injection port.
7. Per Joint Commission recommendations, all tubes and catheters should be labeled to prevent the possibility of tubing misconnections. Staff should emphasize to all patients the importance of contacting a clinical staff member for assistance when there is an identified need to disconnect or reconnect devices.

EQUIPMENT:
Gloves
Alcohol applicator (wipe/swab/disk/ampule)
Antimicrobial applicator (optional)
10 mL syringes (2)
25-gauge needle or needle less adaptor (2)
Normal saline
Heparin solution (100 units/mL or as prescribed)
Clamp (optional)
Tape
Puncture-proof container
Impervious trash bag

PROCEDURE:
1. Adhere to Standard Precautions.
2. Explain the procedure and purpose to patient/caregiver.
3. Assemble the equipment on a clean surface close to the patient.
4. Place patient in comfortable position, making sure that site is accessible.
5. Ensure adequate lighting.
6. Draw up heparin as ordered.
7. If the catheter has an intermittent injection port:
   a. Unclamp catheter.
   b. Clean intermittent injection port with alcohol applicator, using friction. Allow to air dry.
   c. If heparin flush is being administered following a medication dose, flush line with 3-5 mL normal saline prior to flushing with heparin.
   d. Inject heparin solution into injection port using steady pressure.
   e. If clamp used, before syringe is completely empty, clamp tubing and apply pressure on plunger while withdrawing syringe and needle or needle less adaptor.
8. To change intermittent injection port (See Infusion Therapy - Central Venous Catheter: Intermittent Injection Port Change).
9. Discard soiled supplies in appropriate containers.

AFTER CARE:
1. Document in patient's record:
   a. Date, time, procedure and observations.
   b. Amount of normal saline and heparin flush, including strength of heparin.
   c. Patient's response to procedure, side effects and management.
   d. Instructions given to patient/caregiver.
   e. Communication with physician, if needed.

REFERENCE:

1307