PURPOSE:
To maintain patency of a central venous catheter and prevent thrombosis.

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 and for 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 10 units/mL of heparin solution or 2 times the volume of the catheter and any add on devices, i.e., if the volume of catheter is 1.5 mL, the minimum amount of solution needed to flush the catheter is 3 mL or as ordered by physician.
3. If the patient has a closed tip (Groshong) catheter or valved catheter, flush with normal saline only. Per manufacturers instruction, these catheters do not require routine flushing with an anticoagulant.
4. With a multi-lumen catheter, each lumen must be heparinized at least once a day and after every lumen use.
5. During and after administration of the flush, positive pressure must be maintained to prevent reflux of blood into the catheter lumen.
6. If you meet resistance when attempting to flush, no further attempts should be made to avoid dislodging a clot into the vascular system or catheter rupture.
7. Prior to interruption of the line, the connections should be cleaned with alcohol using friction and allowed to air dry.
8. The needleless adaptor should be accessed only with a sterile device.
9. Connections may be secured with tape to avoid disconnection.
10. All connections must be luer locks.
11. The needle less adaptor should be changed at minimum every 72 hours with a maximum span between changes of 7 days. Needle-less adaptor needs to be changed if leaking, inadvertently disconnected, when drawing blood or if unable to flush all of the blood residue out of the needle less adaptor.

EQUIPMENT:
Gloves
Alcohol (wipe/swab/disk/ampule)
10 mL luer lock syringes (2)
Needle-less adaptor
Normal saline
Heparin solution (10 units/mL or as prescribed)
Tape
Puncture-proof container
Trash bag

PROCEDURE:
1. Perform hand hygiene.
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 site is accessible.
5. Ensure adequate lighting.
6. Draw up heparin and normal saline as ordered.
8. If heparin flush is being administered following a medication dose, flush line with 3-5 mL normal saline prior to flushing with heparin.
9. Inject heparin solution using steady pressure.
10. Before syringe is completely empty, clamp tubing and apply pressure on plunger while withdrawing syringe.
11. 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. Communicate with physician, if needed.

REFERENCES:
Infection Control in Home Care and Hospice Second edition Emily Rhinehart Mary McGoldrick, Jones and Bartlett Publishers Sudbury, MA
