CONSIDERATIONS:

1. Hemophilia is an inherited bleeding disorder characterized by prolonged or spontaneous bleeding into the muscles, joints, or internal organs.
2. Hemophilia is caused by deficient or defective clotting factors:
    a. Two of the most common forms are Hemophilia A (Factor VIII deficiency) & Hemophilia B (Factor IX deficiency)
    b. Other, less prevalent bleeding disorders that utilizing factor replacement therapy include von Willebrand Disease, Factor I, II, V, VII, X, XI, and deficiencies.
3. Ongoing education topics should be specific to patient's age (pediatric to adult), developmental stage, type of bleeding disorder, and parental/caregiver involvement with treatment regimen:
    a. How/when to assess for bruises/injuries
    b. When to call physician and home health agency
    c. When to go to ER
    d. Types of bleeds:
        i. Most common:
            1. Bruises
            2. Joints
            3. Nose/mouth
            4. Muscle bleeds
        ii. Life Threatening:
            1. Head
            2. Eye
            3. Neck/throat
            4. Kidney/bladder
            5. Abdomen/spine
    e. Pre/post dental and other procedure treatment
    f. Importance of annual Hemophilia Treatment Center Evaluations by medical team.
4. Because factor is a blood product, documentation and recording keeping of lot numbers is required.
5. Dosing of antihemolytic factor is based on a prophylaxis and/or per bleeding episode schedule.

EQUIPMENT:

Gloves (non-sterile)
Antimicrobial hand scrub
Alcohol prep pads/wipes
25 gauge or 23 gauge safety butterfly needle (may use safety peripheral IV needle depending on patient condition or duration of therapy)
Needleless connector/IV extension tubing if therapy continues past one infusion
Tape to secure (Consider patient allergy to adhesives)
Ordered factor brand
Reconstitution devices (one for each vial)
OSHA approved sharps container
Red biohazard trash bag
2 x 2 sterile gauze
Self-adhesive bandage, small
10 cc to 60 cc syringes, # depends on ordered volume and assay size
Prefilled preservative-free Sodium Chloride (0.9%) if ordered by physician

PROCEDURE:

1. Adhere to Standard Precautions. Verify patient's identity using two identifiers.
2. Explain infusion procedure to patient/caregiver.
3. Obtain patient's weight. Factor dosing is dependent upon patient weight. For prophylaxis dosing, may obtain patient weight monthly.
4. Verify and ensure physician's order for therapy:
    a. Verify patient identify with current history and diagnosis, allergies, previous reactions to blood or blood product
    b. Expiration date, lot #, and brand of clotting factor
5. Record Factor product name, brand, lot number and expiration date.
6. Prepare work area with antiseptic wipe allowing area to dry.
7. Place poly back towel over area to place supplies.
8. Wash hands thoroughly with antimicrobial soap and don gloves.
9. Factor Reconstitution Process:
    a. Medication supplies needed for reconstitution are provided in each factor vial box
    b. Open each box containing vial of sterile H_20 and powdered factor
    c. Remove cap from top of both factor and diluent vials and wipe briskly, in a back and forth motion several times with an alcohol prep pad – one for each vial; allow vial tops to dry
    d. Place provided transfer device into STERILE WATER FIRST, then secure factor vial to device, with the sterile water vial on the top
    e. Once the vacuum has pulled sterile water into the factor vial, remove empty sterile water vial and transfer device from factor vial and dispose of in appropriate biohazard container
    f. Allow the factor to dissolve (Factor that is refrigerated may be taken out of the refrigerator 30 minutes prior to infusion)
    g. Do not shake factor vial but gently turn vial up and down to obtain factor powder from the sides or, gently roll the factor vial between the palms of hands
    h. Once factor is dissolved, attach the provided safety filter needle to the appropriate syringe
    i. Again wipe the top of the factor vial with an alcohol prep pad

   j. Slowly draw up the reconstituted factor into the syringe (Do not use syringe smaller than a 10 cc)
   k. Place syringe to the side on the previously cleansed area with poly back towel
10. Perform venipuncture, attach needleless connector if peripheral IV is to be left in place.
11. Attach factor syringe and infuse at a rate of no more than 10 cc/minute.
12. Observe for immediate or delayed signs or symptoms of infiltration/extravasation.
13. Once infusion is completed, flush catheter with 3 - 5 mL of 0.9% Sodium Chloride if ordered.
14. Remove venipuncture needle and discard in biohazard container.
15. Immediately apply pressure to the site for a minimum of 3 - 5 minutes.
16. Apply bandage to cover site once hemostasis is achieved.

AFTER CARE:

1. Observe for any infusion related reaction such as urticaria, abnormal breathing/sounds, chest tightness/heaviness, or low back pain.
2. Documentation of infusion in patient record:
   a. Date/time of infusion/dose/route/rate/frequency
   b. Factor product name
   c. Lot number/expiration of each vial used
   d. Gauge/length of safety needle
   e. Number of access attempts
   f. How patient tolerated infusion process
   g. Symptoms of new bleeding episode or improvement of symptoms of current bleeding episode
   h. Patient education provided
3. Notify/communicate with Hemophilia Treatment Center of outcome of infusion if applicable.
4. Communicate with patient at a designated time to check if bleeding episode symptoms are increasing or are improving/decreasing.

REFERENCE:

Infusion Nurses Society, Inc. (2011). *Policies and Procedures for Infusion Nursing.* 4th Edition. INS, 220 Norwood Park South, Norwood, MA.

Trick, N. L. Blood Component Therapy. In: Alexander, M., Corrigan A., Gorski, L., Hankins J., Perucca, R., Eds. *Infusion Nursing: An Evidenced Based Approach.* 3rd Edition. St. Louis, MO: Saunders/Elsevier; 2010: 242-262.