Policy:

1. The Licensed Nurse, per facility policy and State Regulations, may perform the Intravenous (IV) administration of an inotropic Medication if qualified through infusion therapy education and clinical competency validation. The minimum requirements of the Licensed Nurse to perform IV inotropic Medication administration include:
    a. Documentation of successful completion of infusion therapy education per policy.
    b. Documentation of successful completion of infusion therapy clinical competencies per policy.
    c. Documentation of IV inotropic Medication Administration in-service education and clinical competency initially, then annually.
2. IV inotropic medications will NOT be initiated in the Skilled Nursing Facility {SNF).
3. Admission requirements for a patient receiving an IV inotropic Medication include:
    a. The patient must be under the care of a Cardiologist.
    b. The patient shall be initiated in the hospital setting with continuous EKG monitoring and stabilized on the specific inotropic agent/ specific dose with no adverse effects for at least 72 hours PRIOR TO admission to the SNF.
    c. The patient must have a central vascular access device {CVAD), double lumen preferred, along with documentation of the CVAD tip confirmation within the SVC/CAJ or IVC above the level of the diaphragm per policy.
    d. Prior to admission, a backup plan must be established and documented for the unexpected loss of use of the CVAD.

An EXAMPLE backup plan may include but is not limited to the following:

    I. First, utilize the alternate CVAD lumen, if appropriate.
    II. Second, utilize a short peripheral catheter inserted immediately by the qualified Facility RN for short-term use until a new CVAD is inserted or an alternate plan has been determined by the Prescriber/LIP, if appropriate. *Monitor site frequently due to increased risk of phlebitis and other local complications.*
    III. Third, the Nursing Agency is to insert PICC at the bedside per policy.
    IV. Lastly, transfer the patient to the acute care setting for insertion of new CVAD.

4. IV inotropic Medication DOSE changes will NOT be performed in the SNF. For this DOSE change, the patient shall be transferred to the acute care setting to ensure continuous EKG monitoring, the patient is free of adverse effects, and the change is beneficial.
5. A *weight-based* RATE change may be performed in the SNF with a Prescriber/ LIP order, but it is suggested that it be limited to one time per week.
    EXAMPLE: If the resident is on Dobutamine 7.5mcg/kg/min and has lost 3kg over 3 weeks, the prescriber may order a weight-based RATE change in ml/hr to maintain the same dose. Patients are not standardly transferred to the acute care setting for this weight-based RATE change.
6. The IV inotropic Medications that may be ordered and administered in the SNF are:
    a. Dobutamine
    b. Milrinone

7. A Prescriber/ LIP order for IV inotropic medication administration shall include:
    a. Inotropic Medication and *weight-based* dose (mcg/kg/min) based on patient's weight in kg; NOTE: infusion rate (ml/hr) is calculated utilizing the *weight-based* dose along with the concentration of the inotropic medication (mcg/mL or mg/ml).
    b. Duration of therapy
    c. Route (administered via the dedicated lumen of the CVAD)
    d. Emergency backup plan (for the unexpected loss of use of the CVAD)
    e. Monitoring orders with frequency, which should include but are not limited to:
        I. HR, RR, BP, assessment of peripheral pulses, lung sounds, and edema status, recommended every 4 hours with reportable parameters.
        II. Weight and Intake & Output recommended daily with reportable parameters.
        III. Laboratory Monitoring per Prescriber/ LIP orders. Report any critical results to the Prescriber/ LIP immediately.
        IV. 02 sat frequency with reportable parameters.
        V. Other monitoring as prescribed.
    f. CVAD assessment every 2 hours and PRN during the continuous infusion per policy.
    g. CVAD catheter care orders per policy based on the type of CVAD.
8. IV inotropic Agents must be administered via an electronic infusion device (EID). The Pharmacy shall ensure an additional EID is available in the SNF as the emergency backup EID for the patient on an IV inotropic Medication.
9. The EID is initially programmed per Prescriber/ LIP order at the Pharmacy, and the EID program and settings are verified prior to dispensing.
10. The inotropic medication bag and attached tubing shall:
    a. Include an anti-siphon valve to prevent infusion free-flow if disconnected from the EID;
    b. Be changed per Pharmacy guidelines for expiration date per USP Guidelines and prn;
    c. NOTE: An integrated air-in-line filter is recommended in conjunction with utilization of the EID air-in-line sensor.
11. In the SNF, the EID program is verified along with the prescription by 2 qualified Licensed Nurses at the following intervals:
    a. Upon change to the Facility EID and IV inotropic medication
    b. Every shift change
    c. With each inotropic medication bag change
    d. With any *weight-based* infusion rate (ml/hr) change
12. Documentation in the medical record includes, but is not limited to:
    a. Inotropic Flow Sheet:
        I. Upon change to the Facility EID and IV Inotropic Medication
        II. Every shift change
        III. With each inotropic medication bag change
        IV. With any *weight-based* infusion RATE (ml/hr) change.

    b. Narrative Nursing Note at least once per shift and PRN to include but not limited to:

I. Date and time
II. Procedure performed if applicable
III. VAD site assessment as performed per policy
IV. Patient response

c. Patient assessment per Prescriber/ LIP order.
d. Other documentation per Facility policy.

General Guidelines:

1. Licensed Nurses will adhere to infection prevention and safety compliance standards and policies during all infusion therapy-related procedures.
2. The Licensed Nurse administering the infusion shall have knowledge of, including but not limited to, the following prior to administration:
    a. Indication for prescribed infusion therapy
    b. Appropriate dosing, compatibility information, contraindications
    c. Potential adverse effects, side effects, and complications
    d. Patient allergies, current medications, and past history
    e. Proper use of the EID utilized for IV inotropic Medication Administration, including, but not limited to, reviewing/changing program per Prescriber/ LIP order, battery changes, and medication bag changes.
3. Each infusion medication or solution shall have a dedicated IV administration set.
4. Aseptic technique will be adhered to during the entire procedure.
5. It is recommended to coordinate the needleless connector change with the medication bag and administration set change, if possible.
    a. ***Routine catheter flushing to the dedicated CVAD lumen is NOT recommended*** when changing the needleless connector or changing the medication bag/ administration set to prevent a rapid bolus of the inotropic medication.
    b. *If flushing the dedicated CVAD lumen for inotropic medication administration is necessary,* i.e., troubleshooting, then the nurse ***must FIRST WITHDRAW 5ml of blood from the lumen and discard*** prior to flushing to remove residual medication from the dedicated CVAD lumen.

Equipment:

- Prescribed inotropic medication bag with attached primed extension tubing with anti-siphon valve (and air-in-line filter, if applicable).
- EID *NOTE: Back-up EID for the inotropic therapy shall be available in the Facility.*
- Non-sterile gloves
- Alcohol wipes
- Needleless connector (if performing needleless connector change)

NOTE:

- ***Change needleless connector on admission, every 7 days and PRN. It is preferred to change the needleless connector simultaneously with the inotropic medication bag and administration set change.***
- ***Routine catheter flushing is NOT recommended when changing the IV inotropic medication bag or the needleless connector to prevent a rapid bolus of the IV inotropic medication. IF catheter flushing is required, the Licensed Nurse must first withdraw 5mL of blood to remove the residual inotropic medication from the CVAD lumen, then flush the lumen with the prescribed flush solution per policy.***
- ***To further minimize the risk of air embolism, it is recommended to perform the needleless connector change during resident exhale or while the resident performs the Valsalva maneuver or holds breath.***

Procedure to Change from Hospital inotropic Med/ EID to the Pharmacy inotropic Med./ EID:

1. Verify Prescriber/ LIP order with the label on the medication.
2. Inspect medication bag for elements to include but not limited to expiration date, sedimentation, particulate matter, change in color, and leaking. If issue noted, notify Infusion Pharmacy. Ensure medication is at room temperature.
3. Verify with 2nd Licensed Nurse that EID settings and inotropic medication label conform with Prescriber/ LIP order. Label medication bag with: date, time, nurse's initials.
4. Assemble and prepare supplies on a clean surface.
5. Perform hand hygiene and don non-sterile gloves.
6. ATTACH NEW medication bag and administration set to EID.
7. Vigorously scrub NEW needleless connector with an alcohol wipe.
8. Remove sterile end cap from inotropic administration set and aseptically attach the inotropic administration set to the NEW needleless connector.
9. Utilizing the PRIME feature on the pump, PRIME the needleless connector with the inotropic medication and place on a clean surface. Clamp tubing.
10. Discard used supplies, remove gloves and perform hand hygiene.
11. Proceed to patient's room.
12. Identify patient per Facility policy.
13. Explain procedure to patient/personal representative.
14. Assemble and prepare supplies on a clean surface.
15. Perform hand hygiene and don non-sterile gloves.
16. STOP HOSPITAL EID, clamp catheter lumen and aseptically disconnect administration set from designated inotropic CVAD lumen.
17. While holding hub of catheter lumen:
    a. Vigorously scrub junction between needleless connector and the catheter hub with an alcohol wipe and allow to AIR DRY.
    b. Aseptically remove needleless connector and immediately attach NEW primed needleless connector to the dedicated inotropic CVAD lumen and ensure securement.
18. Open clamps on catheter lumen and administration set, START EID, and re-verify EID program.

19. Verify solution is infusing prior to leaving the bedside.
20. Dispose of used supplies per facility policy.
21. Remove gloves and perform hand hygiene.
22. Document per policy.
23. Report to Prescriber/LIP and Supervisor any complications noted during procedure, as applicable.

Procedure to change Inotropic Medication Bag and Administration Set:

1. Verify Prescriber/ LIP order with the label on the medication.
2. Inspect medication bag for elements to include but not limited to expiration date, sedimentation, particulate matter, change in color, and leaking. If issue noted, notify Infusion Pharmacy. Ensure medication is at room temperature.
3. **Verify with 2nd Licensed Nurse** that EID settings and inotropic medication label conform with Prescriber/ LIP order. Label medication bag with: date, time, nurse's initials.
4. Identify patient per Facility policy.
5. Explain procedure to patient/ personal representative.
6. Assemble and prepare supplies on a clean surface.
7. Perform hand hygiene and don non-sterile gloves.
8. STOP EID, clamp catheter lumen and aseptically disconnect administration set from CVAD lumen.
9. REMOVE used medication bag and administration set from the EID.
10. ATTACH NEW medication bag and administration set to EID.
11. RESET the following settings on the EID and **verify with a 2nd Licensed Nurse:**
    a. Volume to be infused (Reservoir Volume if utilizing a CADD) equal to inotropic bag volume
    b. CLEAR ml given (Total ml given)
12. Verify medication administration set is primed, if applicable.
13. Vigorously scrub needleless connector with alcohol wipe. Allow to air dry.
14. Aseptically attach IV inotropic medication administration set to needleless connector of dedicated inotropic CVAD lumen and open all clamps.
15. Start EID and verify EID program.
16. Verify solution is infusing prior to leaving the bedside.
17. Dispose of used supplies per Facility policy.
18. Remove gloves and perform hand hygiene.
19. Document per policy.
20. Report to Prescriber/ LIP and Supervisor any complications noted during procedure, as applicable.

Procedure to change the needleless connector:

1. Identify patient per Facility policy.
2. Explain procedure to patient/ personal representative.
3. Assemble and prepare supplies on a clean surface.
4. Perform hand hygiene and don non-sterile gloves.

5. STOP EID, clamp catheter lumen and aseptically disconnect administration set from catheter lumen.
    a. If utilizing *existing* inotropic medication bag, immediately apply sterile end cap to end of administration set to maintain sterility and proceed to step 6a.
    b. If utilizing NEW inotropic medication bag, proceed to step 6b.
6. Prime NEW needleless connector:
    a. ***If utilizing existing inotropic medication bag:***
        I. Vigorously scrub NEW needleless connector with an alcohol wipe.
        II. Remove sterile end cap from inotropic administration set and aseptically attach the inotropic administration set to the NEW needleless connector.
        III. Utilizing the PRIME feature on the pump, PRIME the needleless connector with the inotropic medication and place on a clean surface. Proceed to step 7.
    b. ***If utilizing a NEW inotropic medication bag:***
        I. REMOVE used inotropic medication bag and administration set from the EID.
        II. ATTACH NEW inotropic medication bag and administration set to the EID.
        III. RESET the following settings on the EID and **verify with a 2nd Licensed Nurse:**
            1. Volume to be infused (Reservoir Volume if utilizing the CADD) equal to the bag volume
            2. CLEAR ml given (Total ml given)
        IV. Vigorously scrub NEW needleless connector with an alcohol wipe.
        V. Aseptically attach the inotropic administration set to the NEW needleless connector.
        VI. Utilizing the PRIME feature on the pump, PRIME the needleless connector with the inotropic medication and place on a clean surface.
7. While holding hub of catheter lumen:
    a. Vigorously scrub junction between needleless connector and the catheter hub with an alcohol wipe and allow to AIR DRY.
    b. Aseptically remove needleless connector and immediately attach NEW primed needleless connector to the dedicated inotropic CVAD lumen and ensure securement.
8. Open clamps on catheter lumen and administration set, START EID, and re-verify EID program.
9. Verify solution is infusing prior to leaving the bedside.
10. Dispose of used supplies per facility policy.
11. Remove gloves and perform hand hygiene.
12. Document per policy.
13. Report to Prescriber/ LIP and Supervisor any complications noted during procedure, as applicable.