General:

- This procedure is to be considered a sterile procedure and should always be performed with the patient or care-giver's consent. The iVAD (also referred to as a Port-A-Cath) should be accessed prior to departing the scene. At NO TIME should the device be accessed while the ambulance is in motion, so as to minimize damage to the site.
- The iVAD is a surgically inserted device connected to the subclavian vein and it is beneath the skin. Access should ALWAYS occur with a Huber needle. The device is ALWAYS heparinized when not in use. The iVAD should only be accessed with a Huber needle. Other needles with damage and ruin the device.
- Care should be taken to ensure that this procedure is performed in a near sterile environment. The most aseptic technique precautions should be used.
- An attempt to withdraw should be made and a minimum of 10cc of blood must be evacuated to remove heparin from the device. If the site will not flush DISCONTINUE the access.

Policy:

- Accessing the iVAD may be performed in lieu of peripheral vascular access when the patient has a medical condition requiring medication or fluid resuscitation therapy.
- This skill is Paramedic Level Skill only.
- The patient or care-giver may request the EMS crew to access the iVAD if circumstances dictate.
- Accessing the device should be performed when the ambulance is not in motion and preferably prior to departing the scene.

Indications:

- For use only in patients that have an iVAD that require medical intervention. This is not a regular and customary vascular access site, when the patient does not require urgent medical therapy.

Precautions:

- Ensure near sterile technique when accessing to minimize the risk of infection.

Complications:

- Flushing of Heparin into patient from iVAD
- Mechanical obstruction resolved by having the patient shrug shoulders or lean forward to reduce pressure on subclavian vein.
- Embolization of microthrombi. This occurs from free flowing IV fluid breaking off microthrombi at the catheter's distal tip. ALWAYS aspirate at least 10ml of fluid from the catheter prior to flushing with fluid or medication.
- Air embolism. Prime all tubing prior to infusion including needle set.
- Contamination or infection
- Bleeding due to unclamped tubing
- Catheter breakage and kinking. Inspect equipment prior to using for damage or visible kinks.
- Catheter dislodgement.

Procedure:

1. Prime Huber needle and attached tubing with saline.
2. Examine site for infection, redness, swelling, pain or other complications. If these exist, DO NOT ACCESS SITE. If the site feels too deep or the site is turned, and/or rotated and you do not feel comfortable accessing it, DO NOT ATTEMPT.
3. EMS crew utilizes sterile gloves and mask.
4. Identify edges of iVAD and center with fingers donned with sterile gloves.
5. Turns patient's head away from the insertion site.
6. Cleanse area with Chlorhexidine for a minimum of 90 seconds working from the center out in a circular motion.

7. Allow the site to completely dry. DO NOT blot, blow, or wave a hand past to dry site. These increase the potential for infection.
8. Close clamp on tubing attached to Huber needle until ready to aspirate.
9. Stabilize the site with one hand and with the other, insert the needle at a 90o angle through the skin and septum of device.
10. Feel resistance of needle touching the back of the port to avoid subcutaneous placement.
11. Attempt to Aspirate 10 ml of blood to clear heparin and ensure patency of site. WASTE THIS BLOOD. If you are unable to obtain a blood return from the site have the patient raise their arm on the side of the iVAD. **If blood return is still not obtained, CONNECT a flushed saline lock and secure site as noted in step 18 and 21. DO NOT FLUSH OR FLOW FLUID THROUGH THE SITE. LEAVE THE NEEDLE IN PLACE AND NOTIFY ER STAFF UPON YOUR ARRIVAL, of the inability to ensure patency of the site by blood return.**
12. Connect IV tubing and flush with saline solution to clear blood and establish patency of line.
13. Secure needle with sterile dressing. Use folded sterile 4x4's on either side of needle and cover with tegaderm provided in access kit or clear tape.
14. Observe for signs of infiltration.
15. DO NOT ALLOW IV BAG TO RUN EMPTY. IF AIR ENTERS THE DRIP CHAMBER THIS WILL CAUSE AN AIR EMBOLISM AND CAN KILL THE PATIENT. TO AVOID THIS, CONSIDER THE FOLLOWING
    - Keep IV Bag vertical at all times.
    - Ensure that IV bag has fluid.
    - Continually monitor flow and ensure that drip chamber is NEVER dry.
    - Do not lay IV bag on patient, between their legs, or in such a position that air can enter the drip chamber.
16. Label edge of tegaderm with the following:
    - Date accessed
    - Time accessed
    - Initials of person accessing
17. Document
    - Time of access
    - Patency of site
    - Site appearance