



County of Santa Clara Emergency Medical Services System

Policy #700-M07: Pre-Existing Vascular Access Devices

PRE-EXISTING VASCULAR ACCESS DEVICES

Effective: June 2012
Replaces: New
Review: June 2021

Introduction

Pre-Existing Vascular Devices (PVADs) offer an alternate route for medication administration in emergent situations. Though these look very complicated they can provide easy access for providing rapid pharmacological treatment. The following simple steps must be followed to ensure patient safety and prevent damage to catheter or shunt.

Indications

- Functional pre-existing vascular access device.
- Critical patients in immediate need of IV fluids and medication.
- Any patient who is not in an immediately life threatening situation, but is conscious and is able to explain accessing the device to the paramedic.

Contraindications

- Non-functional PVAD due to blood clots, catheter displacement, or damage to device.
- Subcutaneous PVAD (i.e., PortaCath; does not include dialysis access sites).
- Subcutaneous dialysis fistula or graft that is less than 6 weeks old. (May **ONLY** be used for patients in extremis.)

Equipment

- IV fluid.
- IV tubing.
- Pressure bag (Used for dialysis grafts and fistulas only).
- 10 cc syringe (at least 2, with one filled with normal saline flush).
- 18 gauge or larger angiocatheter, or equivalent.
- Alcohol or Betadine wipes.

Procedure

Indwelling Catheters (i.e., Hickman, PICC lines)

- Identify location of catheter insertion and inspect for signs of damage, clots, and infection.
- Locate different ports on multi-lumen catheters and identify the colors.
- Blue or clear color typically identifies venous access.
- Prepare 2 syringes, one with 10ccs of normal saline flush.

- Unclamp or release the stops on the single catheter port you will be accessing.
- Using aseptic technique, withdraw 5 to 10 cc of fluid from the catheter using a syringe or, in some cases, a needleless access device. Aspiration should stop when blood reaches the port. This preparation procedure is done to clear any additional **Heparin** that the catheter would have contained.
- Maintaining aseptic technique, vigorously flush the PVAD port with 5 to 10 cc of normal saline using a syringe or needleless access device. Note any signs of resistance or infiltration.
- Attach flushed IV tubing, continuing aseptic technique, to access port. Tape the tubing hub or needleless access device to the PVAD to prevent accidental disconnection.
- Wrap cloth tape around IV tubing then use a clothes pin or paper clip to secure tubing to patient's clothing. This will prevent any pulling on the IV tubing from dislodging the indwelling catheter.

Procedure for Dialysis Shunts, Fistulas, and Grafts

- Dialysis shunts should be accessed using the above procedure. However, the use of a pressure bag to infuse IV fluids into grafts or fistulas should be considered to prevent pressurized blood from filling the IV tubing.
- Fistulas and grafts are subcutaneous arterial to venous anastomoses using the patient's own vasculature or artificial graft material. They are associated with many complications and shall only be accessed for patients in extremis who have no other access sites. This includes inability to gain IO access.
- Assemble supplies and have IV bag and tubing flushed and placed inside a slightly inflated pressure bag.
- Locate venous side of the fistula by applying pressure to center of the graft loop, occluding much of the blood flow. Next, feel both sides of the graft. The strongly pulsating side of the loop will be the arterial or supply side and the other will be the venous or return side.
- Once return side is determined, obtain access using aseptic technique and no smaller IV than an 18 gauge needle. Be prepared for blood to spurt out from access point since the fistula is normally under pressure.
- Control bleeding with sterile gauze over hub of IV cannula.
- Quickly connect IV tubing. Do not completely tamponade fistulas or grafts as they may become clotted or rupture.
- Once IV tubing is connected inflate pressure bag to compensate for fistula pressure. This will provide an access route for medications that must be pushed rapidly.
- Further inflation of the pressure bag can deliver IV fluids at an appropriate drip rate.

Complications

- Damage to vascular device.
- Infection.