

7.13 ADULT AND PEDIATRIC VASCULAR ACCESS WITH PRE-EXISTING VASCULAR ACCESS DEVICE (PVAD)

INDICATION

- Critically ill or injured patients
 - Unable to obtain pulse;
 - Unresponsive;
 - Apneic;
 - Hypotension with shock;
 - Acute deteriorating level of consciousness.
- If vascular access cannot be established via peripheral IV in 2 attempts or less than 90 seconds, then proceed with either IO or PVAD access.
- Less invasive route of medication administration (PO, IN, IM) is preferred for stable patients prior to the attempting an IO insertion.
- Do not use if infection at site is present.

PROCEDURE

1. Prepare medication and 10 ml saline or IV solution flush, and tubing. Purge all air from lines and syringe.
2. Apply pressure cuff to IV bag if access is being made to fistula or shunt.
3. Wash hands thoroughly and/or cleanse with alcohol based cleanser. Sterile gloves are preferred for procedure if available.
4. If betadine wipes or cleanser are not available, alcohol preps may be used.
5. Cleanse injection cap or access site with betadine wipes. If time allows, let set for 90 seconds.
6. Wipe injection cap or access site with alcohol.
7. Due to high pressures created, never use syringes smaller than 10 ml for IV push medications or flushing.
8. Never use high pressures for IV push fluids. Pressure cuffs < 150 mm.
9. Prior to infusion, withdraw and discard 5 ml of blood to remove heparin lock and assure patency.
10. If unable to withdraw 5 ml of blood or assure patency of line, do not continue PVAD access. May attempt IO access.
11. If multiple color ports are available, the BLUE color port is preferred.

NOTES

- Strict adherence to clean or aseptic technique is crucial when handling any PVAD to prevent infection.
- **Air embolism:** The PVAD provides a direct line into the central circulation. Introduction of air into these devices can be hazardous.
 - Do not remove injection cap from catheter unless catheter is clamped
 - Do not allow IV fluids to run dry
 - Always expel air from preload/syringe prior to administration.

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- **Thrombosis:** A blood clot within the vascular device. Dislodging a clot can cause pulmonary embolus or vascular damage.
 - Follow medication with 5 ml normal saline or heparin solution (if within scope of practice) flush.
 - Do NOT inject medications or fluids if resistance is met. When establishing patency, draw back first.
- **Catheter damage:** Should damage occur to the external catheter:
 - Clamp immediately between the skin exit site and the undamaged area to prevent air embolism or blood loss.
 - Use padded hemostats (or padded with 2 X 2 and tape).
- **Bleeding:** If needle or catheter is dislodged from fistula or shunt, or if device is damaged from trauma, maintain direct pressure as for an arterial bleed.