

IV Update

A Review of Vascular Access & IV Infusion Topics January 2021

Red Cap™ vs Disinfecting Cap

Protective caps for IV access points are used to prevent the ingress of contaminants into the intravenous device and into the patient's blood stream. These protective caps are engineered to cover the access points and are integrated with a mechanism to bathe the access point in alcohol, further decontaminating the site. This concept of protecting access points is important, especially due to the fact that contamination of these points is one of the most common causes of Catheter Related Blood Stream Infections (CRBSI).

In many settings, access to these engineered protective caps (example: Curos, SwabCap) is limited or absent, but because it is recognized that these access points should be covered, many facilities have turned to using red dead-ender caps. These are packaged in a sterile fashion and are two-sided with a male and a female end so that they can be used for multiple applications. When using these Red Caps™ (B-Braun), please keep in mind these important points:

- These are dead-ender caps, intended for use on IV administration tubing or syringes or medication/fluid. They were not designed to be used to protect needleless connectors and may impact the internal mechanism of the connector when the cap is engaged.
- Red Caps[™] cannot be infused through. Because they are two sided, with a male and female end, nurses have made the mistake of trying to infuse through these caps when they are placed over needless connectors. Medication cannot be pushed through this cap, and some nurses have mistakenly believed that the line was "occluded". Once again, Red Caps[™] are dead-ender caps only.
- 3. Never re-use the Red Caps[™]. They are intended for onetime use only and re-use risks contamination.
- 4. The Red Caps[™] DO NOT disinfect the needleless connector. It is important when removing this cap if it is used over the needleless connector, to remember to scrub the connector with alcohol per your facility's policy with each and every access.





Push-Pull or Mixing Method for Blood Sampling

One of the advantages to having a Central Vascular Access Device (CVAD) is that blood can be sampled through the device itself, avoiding the difficulty and discomfort of direct venipuncture. However, in order to produce an undiluted sample, the locking solution (usually Heparin or Saline) must be aspirated and discarded. With most CVAD's a minimum of 6 ml waste is recommended prior to drawing samples for the lab. With repeated blood draws, this wasted blood can lead to significant anemia.

According to the Infusion Nurses Society, the Push-Pull or Mixing method is an acceptable way to sample blood from a CVAD, avoiding blood waste and the anemia that may result from that action.

The Push-Pull method consists of aseptically connecting a 10 ml saline flush syringe to the CVAD device hub, flushing the line with 1-2 ml's of saline, aspirating for blood return, then flushing with the rest of the saline. After that, pull back a volume of blood into the syringe for five cycles. There is not a consensus among studies of this technique stating the volume of blood that should be aspirated and reinjected with each cycle. The syringe would not be detached from the line during this process until the 5th cycle had been reinjected into the CVAD. Detach the syringe and attach a new sterile syringe. Obtain the desired blood sample amount, replace the needleless connector, then flush the line with two 10ml syringes using pulsatile technique.

Keep in mind that hub manipulation during blood sampling increases the risk of Catheter Related Blood Stream Infection, so aseptic technique must be followed during this process along with alcohol disinfection to reduce this risk.

Do you need support to provide the best care for your patient's vascular access device? Please call us! We have a nurse on-call for questions, troubleshooting by phone or in person, or emergency vascular access 24 hours a day, seven days a week. We are here for you! (541) 505-7386