Rapid Review: Obtaining Blood from a Central Venous Catheter

One of the benefits of a central venous catheter is the direct access to the venous system which can be used for obtaining blood.

The presence of residual fluid and/or medications in the catheter can alter the results of laboratory testing. To prevent this, a sample of blood must be withdrawn and discarded before obtaining the sample used for testing.

Helpful tips:
- Stop any infusions for a full minute before obtaining your blood sample
- Use a different lumen if TPN is infusing

When using a central venous catheter for blood cultures
- Use a different lumen if antimicrobial agents have been infused within the past hour
- Obtain an additional culture from a venipuncture site

Step-by-step procedure

1) Apply a protective barrier to a bedside table.

2) Gather and assemble: gloves, an antiseptic solution, 2 10mL syringes, a syringe primed with 10mL of normal saline, blood collection vials, and a sharps container.

3) Perform hand hygiene and apply gloves.

4) Cleanse the needleless connector with an antiseptic solution and allow it to dry.

5) Attach an empty syringe to the needleless connector and unclamp the catheter (if necessary).

6) Withdraw your blood discard.

7) Clamp the catheter (if necessary). Detach and discard the syringe in a sharps container.

8) Cleanse the needleless connector with an antiseptic solution and allow it to dry.

9) Attach an empty syringe and unclamp the catheter (if necessary).
10) Withdraw the necessary amount of blood required for the tests being performed.

11) Clamp the catheter (if necessary) and detach the syringe.

12) Transfer blood from the syringe to the appropriate blood collection vial.

13) Discard the syringe in a sharps container. If additional blood is needed, repeat steps 8 through 13.

14) Attach the syringe primed with 10mL of normal saline and unclamp the catheter (if necessary).

15) Using the appropriate technique, flush the catheter to prevent clotting within the catheter.

16) Clamp the catheter (if necessary). Detach and discard the syringe in a sharps container.

17) Dispose of any remaining supplies following infection control guidelines.

18) Remove gloves, dispose, and perform hand hygiene.

Documentation includes:
- Date and time
- Amount of blood withdrawn and type of testing being performed
- Amount of normal saline used to flush
- Condition of the site and dressing
- Individual’s response, and
- The signature and title of the clinician