

# Blood Draw From a Central Line Catheter

## PURPOSE

To draw blood from a central line catheter for diagnostic tests.

## POLICY

1. Blood draws via a central line catheter (PICC, subclavian, tunneled) require a written physician's order.
2. Peripheral-midline catheters should not be used for routine blood drawing.
3. Blood draws via central line catheters may be performed only by RNs trained in central line.
4. This procedure shall be done using aseptic technique.
5. Protective gloves shall be worn during this procedure and consideration given to wearing goggles.
6. Place a new primed needleless connector and extension tubing on the catheter after the blood draw, or follow manufacturer recommendations.
7. Erroneous lab values have been reported on blood specimens obtained from central catheters. If the lab values are significantly altered in a previously stable patient, the lab test should be repeated.
8. When drawing blood samples from catheters with more than one lumen, all infusions being administered through the catheter should be stopped for a full minute prior to obtaining the blood sample.
9. **Prior to blood draws from patients on continuous infusions of TPN**, the infusion shall be stopped for one full minute and the catheter must be flushed with 20ml of 0.9% sodium chloride (USP), using 2 10ml syringes.
10. For neonate and pediatric patients and those requiring frequent phlebotomy, the amount of blood obtained for laboratory tests (including discard or waste volume) should be documented in the patient's medical record.

## EQUIPMENT

Liquid (regular or antimicrobial) soap and sanitizing gel

1 pair of gloves

3-4 alcohol swabs or other disinfectant product

## Blood Draw From a Central Line Catheter

2 10ml pre-filled syringes with 0.9% sodium chloride (USP)

1 10ml syringe for discard

Syringes of appropriate size for amount of blood to be drawn, or Vacutainer® blood draw device

10ml syringe filled with 3-5ml of heparin flush (10 unit/ml or as prescribed by the physician – not required for valved catheters)

Needleless connector and extension tubing (primed with 0.9% sodium chloride)

Labeled blood collection tubes

Safety transfer device

Sharps container

OPTIONAL: Goggles

30ml vial of 0.9% sodium chloride (if not using pre-filled syringes)

Occlusion clamp, if needed

### PROCEDURE

1. Obtain physician order for lab draw. Explain procedure to patient.
2. Put on goggles, if appropriate.
3. Wash hands thoroughly with soap and water and dry with clean paper towel.
4. Arrange supplies on a clean surface.
5. Turn off all solutions infusing for one full minute (if applicable).
6. Put on gloves. Prime new needleless connector and extension tubing.
7. Cleanse needleless connector with 3 alcohol swabs, wiping for one full minute.
8. Attach blood draw device or syringe to needleless connector and aspirate 5ml of blood and discard.
9. Exceptions to discard are:
  - a. drawing blood cultures, in which case the first sample of blood is sent to the lab for analysis
  - b. drawing blood from neutropenic patients or infants, when it is essential to minimize blood loss. Follow specific physician's order.

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10. Attach a new syringe (or tube to Vacutainer®) and aspirate the total amount of blood required.
11. Fill appropriate tubes with blood, doing coagulation studies last, if ordered. If using a syringe to transfer blood into tubes, use a safety transfer device. If blood flow is slow or stops:
  - a. change the blood collecting tube
  - b. change the Vacutainer® device
  - c. flush lumen with 5-10ml of sodium chloride (USP)
  - d. have patient change position, place in Trendelenburg position, or have the patient cough with hands held over the head
12. **For hub to hub technique:**
  - a. cleanse the catheter/needleless connector junction with 3 alcohol swabs, wiping for one full minute, or use other appropriate disinfectant. Clamp the catheter (unless it is a Groshong®) and remove the needleless connector.
  - b. luer lock a 10ml syringe onto the catheter hub
  - c. release the clamp and aspirate 5ml of blood into the syringe; clamp the catheter (if applicable), remove the syringe and discard
  - d. attach the syringe for drawing the blood sample, release the clamp (if applicable) and aspirate the total amount of blood required for the tests
13. Flush the catheter with 10ml of 0.9% sodium chloride. Repeat using second 10ml syringe of sodium chloride, if appropriate. (This may be done after the new primed needleless connector and extension tubing have been attached to the catheter).
14. Attach a new primed needleless connector and extension tubing to the catheter.
15. Attach a transfer safety device to the syringe containing blood for tests and allow the vacuum to draw blood into the tube while directing flow toward the wall of the tube.
16. Label the tubes and transport to the lab per specific laboratory requirements and Infection/Exposure Prevention policies and procedures.
17. Document the procedure in the patient's medical record.

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## RESPONSIBILITY

The Clinical Specialist has the responsibility for approval of, compliance with, and revisions to this policy.

## MODIFICATION/REVISION

This policy is subject to modification or revision in part or its entirety to reflect changes in conditions subsequent to the effective date of this policy.

## REFERENCES

1. Infusion Nursing Standards of Practice – Revised 2016; Journal of Infusion Nursing, Supplement to January/February 2016, Volume 39, Number 1S.
2. Infusion Nursing: An Evidence-Based Approach, Third Edition edited by Mary Alexander, Ann Corrigan, Lisa Gorski, Judy Hankins, and Roxanne Perucca.
3. INS (Infusion Nurses Society) Policies and Procedures for Infusion Nursing, 3<sup>rd</sup> Edition.