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| **Parkview Health** | **MANUAL:  Nursing Clinical Practice Manual** |
| **Policy & Procedure Title: BLOOD DRAWS AND CULTURES FROM  PATIENTS WITH A CENTRAL VENOUS ACCESS DEVICE (CVAD)** | |

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| X Parkview Hospital | X Parkview Huntington Hospital |
| X Parkview LaGrange Hospital | X Parkview Noble Hospital |
| X Parkview Regional Medical Center | X Parkview Orthopedic Hospital |
| X Parkview Whitley Hospital | Parkview Behavioral Health |
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**I.              POLICY STATEMENT:**

To collect blood aseptically from a CVAD with physician’s order.  Do not draw blood from a CVAD smaller than a 3 Fr.

Blood cultures obtained from indwelling intravascular devices, such as intravenous catheters and ports are associated with greater contamination rates than are blood cultures obtained by venipuncture. **Drawing blood cultures from an indwelling catheter should be avoided whenever possible**, and requires a physician’s order. Every precaution should be taken to minimize the percentage of contaminated blood cultures. Blood cultures should always be collected as Paired Specimens; **a single blood culture collection is never appropriate**. Collecting specimens in pairs, from at least two venipuncture sites, enables assessment of isolates as contaminants when normal skin flora organisms grow in only one of the paired specimens.

**NOTE:  An indwelling peripheral or midline cannula is not routinely used for blood specimen collection.**

**II.            DEFINITIONS:**

**CVAD**: Central Venous Access Device is a catheter that has been inserted into a vein with the tip resting in the superior vena cava. If the catheter has been inserted into a femoral vein, then the tip is to rest in the inferior vena cava.  CVAD includes temporary and permanent lines including implanted ports.

**Adult Blood Culture Set:** 20 ml of blood drawn in 2 bottles – aerobic with blue top, and anaerobic with purple top, 10 ml per Bottle

**Paired Specimen:** 2 Blood Cultures Sets of 20 ml each drawn from different peripheral sites. NOTE: **Only one Blood Culture Set of a Paired Specimen should be collected from a central line** if the MD orders the blood cultures to be drawn from the CVAD.

**III.        PROCEDURE:**

**Note:** Procedure may be performed upon successful completion of the competency on Blood Draws from Adult Patients with a CVAD or Blood Culture Draws from Adult Patients with CVAD.

**Note:**  Do not use less than a 10 ml syringe.

**Note:**  Do not use vacutainer on PICC lines.

**Note:** A blood culture specimen may only be drawn from a CVAD after at least one set of peripheral blood cultures are resulted. If a set of peripheral blood cultures have not been resulted, and cultures have been ordered through an existing CVAD, the ordering physician must be notified.

EXCEPTION: Blood cultures ***may*** be obtained from a CVAD or invasive line immediately upon line placement by the physician, VAS nurse, or nurse practitioner placing the line.

**Note**: Blood cultures preferably should be obtained prior to initiating antibiotic therapy.

**Note:** A blood culture should never be drawn from a line that has had an antibiotic agent administered through it during the previous hour.

A.           Obtain supplies including:

1. 10 ml syringes
2. Lab tubes or bottles appropriate for specific test(s)
3. N/S flushes, enough for 20 ml flush per lumen if adult (see Flushing Protocol)
4. Heparin if indicated (see flushing protocol)
5. Needleless connectors
6. Vacutainer blood transfer device
7. Dead-end cap for infusion tubing
8. Alcohol swabs
9. Lab requisitions and labels
10. Blunt fill needle for blood cultures
11. Chlorahexidine prep pads for blood cultures

B.           If needed, check with lab on the minimum amount of blood necessary

           for each test ordered.

C.           Enter order into computer (or per department standard) changing the “department completing” to indicate nursing.

D.           Complete lab requisition stating “blood draw from CVAD”.

E.           Wash hands thoroughly and put on clean gloves.

F.           Stop all IV’s that are infusing.

1. FOR BLOOD CULTURES:
2. Prep culture bottle septa with chlorhexidine prep pad and allow to dry.
3. Clamp lumen if open-ended catheter
4. Remove needless connector and scrub hub with chlorexidine for 15 seconds and allow to dry.
5. Attach empty syringe, DO NOT DRAW BACK WASTE
6. Withdraw 20 ml of blood for culture bottles
7. Scrub hub with chlorahexidine for 15 seconds and allow to dry
8. Attach primed needless connector to lumen
9. Flush all lumens with 20 ml N/S if adult, followed by Heparin (if not in use) only if indicated (see Flushing Protocol).
10. Instill blood into the purple anaerobic first, and then into the blue aerobic and allow each of the bottles to fill to the 10 ml mark. Use caution to not aspirate instill air into the anaerobic bottle
11. NOTE: Under-filling or overfilling the bottles may cause false results. If <10 ml of blood is obtained, all of the blood should be put into the aerobic bottle. An inadequate volume may be rejected by the laboratory.

G.           If lumen being used has a needleless connector in place, do not clamp lumen.  If no needleless connector is in place, clamp the lumen to be used in order to prevent potential air embolism and blood loss.

H.              If the lumen being used is connected to IV tubing, disconnect the tubing from the needleless connector and attach a dead-end cap to the tubing. Cleanse the needless connector with alcohol for 15 seconds and allow to dry.

I.           Flush lumen with 10 ml N/S to ensure patency.  Pediatric flush with 2 ml normal saline to ensure patency (follow physician orders for Neonatal patients). DO NOT flush if drawing blood culture.

J.            Withdraw blood

1. Routine labs draw 10 ml waste then draw labs.

2. Coag labs – draw last with routine lab draws.  If only test to be drawn waste 20 ml blood, then draw blood for coag.

3. Pediatric patients waste 2ml blood and draw labs as needed.  Check with lab for minimum and daily limits based on weight.

K. If an IV infusion is to be reinstituted:

1. Clamp lumen if open-ended catheter

2. Detach needless connector

3. Scrub the hub with alcohol for 15 seconds and allow to dry

4. Attach new primed needless connector

5. Flush all lumens with 20 ml N/S for adults, followed by Heparin (if not in use) only if indicated. (See Flushing Protocol).

a. Pediatric patients: Refer to Flushing Protocol

b. NICU patients: Refer to physician’s orders for flushing

6. Reconnect infusion tubing to needless connector

7. Resume IV infusion at rate specified by physician

L.           Using the Vacutainer Blood Transfer device, fill the appropriate lab tubes.

1.            Attach syringe with specimen to the Vacutainer Blood Transfer device.

2.            Insert blood collection tube into the vacuum barrel of vacutainer and allow blood to transfer from syringe into the tube.

M.           If difficulty is encountered when drawing blood: See Central Venous Access Device: Declotting protocol.

N.           After obtaining specimens in correct order of draw, gently tip specimen tubes up and down (a minimum of 6 times) to mix blood and any additives in the tubes.

O.           At the patient’s bedside, place patient label(s) on specimen(s) with patient’s name, date and time collected and your employee number.  Place lab tubes, along with requisition, in red bag and send to lab via pneumatic tube system.  If no tube station available, deliver to lab.

NOTE: For Blood Cultures: do not place labels on barcodes or blood volume window of bottles

P. Document in patient medical record

**IV.       REFERENCES**

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