

NICU: Blood Culture Collection

Site Applicability: NICU at SPH

Skill Level: **Specialized:** NICU RN

Related Documents and Resources:

1. [B-00-12-10042](#) - NICU: Intravenous Steel Butterfly Initiation
2. [B-00-12-10093](#) – NICU: Intravenous Over the Needle Cannula Initiation

Clinical Indication:

Infants requiring blood culture collection

Policy

A physicians order is required to draw a blood culture.

Need to Know:

1. Blood cultures are drawn:
 - a. To rule out suspected infection
 - b. As surveillance monitoring of current infection
2. Timely collection is critical prior to initiation of treatment and should occur within one hour of given order.
3. A Registered Nurse certified in the initiation of IVs may collect a blood culture when initiating placement of an IV cannula. **Note:** Blood cultures may be taken by a Lab technician proficient in venipuncture in neonates.
4. A blood culture may also be taken from an umbilical venous line and an umbilical/peripheral arterial line at the time of insertion.
5. Adherence to skin disinfection is essential to the collection of a blood culture.

PRACTICE GUIDELINE**Equipment & Supplies:**

1. Aerobic culture bottle (BacT-ALERT PS). Check expiry date, discard outdated bottles	6. #18 gauge safety needle
2. Chlorhexidine gluconate 0.5% antiseptic solution	7. 3 mL syringe
3. Sterile Q-tip or gauze	8. Sterile gloves
4. Microbiology requisition and patient label	9. Alcohol swab to clean blood culture bottle
5. #24 over-needle safety cannula device/ butterfly #23 or #25 gauge	10. Tegaderm to secure IV (if remains in situ)

NURSING PRACTICE STANDARD

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Procedure:

STEPS	KEY POINTS
1. Explain procedure to parent (if present)	
2. Collect equipment and supplies	(Anerobic cultures are rarely indicated)
3. Perform hand hygiene (moment #1 Before patient care)	
4. Confirm correct infant using 2 unique identifiers	
5. Position and safely restrain infant	Second caregiver should be utilized to optimize comfort and success
6. Perform hand hygiene (moment #2 Before a procedure)	
7. Glove	Touching the prepared site to locate vein prior to skin puncture is the most common cause of contamination. Sterile gloves are required unless using a no touch technique.
8. Cleanse skin site with chlorhexidine solution using a side to side motion for 30 to 60 seconds (minimum 30 seconds). Allow to air dry for 60 seconds	
9. Perform venipuncture <ul style="list-style-type: none"> a) Insert/assist with insertion of IV device b) Once flash back is seen c) <u>Cannula IV's</u> – remove stylette and aspirate blood gently with #18 gauge needle attached to 3 mL syringe d) <u>Butterfly</u> – aspirate blood gently with syringe attached to end of the butterfly e) Aseptically collect minimum of 0.5 to 1 mL into single BacT-ALERT culture bottle f) Withdraw needle and apply pressure to puncture with gauze for 2 to 3 minutes 	<p>Insert IV as per procedures B-00-12-10042 - NICU: Steel Butterfly or B-00-12-10093 - Over-the-needle Cannula.</p> <p>Be aware of potential for needle stick injury.</p> <p>1 mL preferred to increase potential of identifying causative agent</p> <p>Pressure applied to puncture site</p>

NURSING PRACTICE STANDARD

B-00-12-10041 – NICU: Blood Cultures

OR Secure cannula and initiate IV infusion	alleviates bruising, hematoma and discomfort associated with both. If hematoma develops, apply warm soaks to the site.
10. Remove cap from culture media bottles	Cap does not form an airtight seal and therefore stopper may not be clean
11. Scrub rubber stopper on bottle with alcohol swab for 30 seconds. Allow to air dry for 60 seconds	To disinfect
12. Inject blood into culture media bottle Always collect blood cultures first; then, if required, collect addition blood samples	Do not forcefully evacuate blood from a syringe into culture bottle. Increases risk of exposure if specimen splatters. There is no need to change needle prior to instilling in culture bottle.
13. Discard sharps, Collect all used items and dispose of appropriately.	
14. Remove gloves and perform hand hygiene (moment #3: After procedure or body fluid exposure)	
15. Place completed patient label on the bottle	Label to include date, time and initials. Avoid covering scanning bar and adjacent sequence numbers on original bottle label.
16. Complete microbiology requisition	Include on requisition: Date and time of collection Type of culture requested Diagnosis Initials of person drawing cultures
17. Place specimens in container and inform porter-ward aide	Immediate transport to lab is recommended. Do not refrigerate specimens
18. Perform hand hygiene (moment #5 After touching surroundings)	

Documentation:

On NICU Nursing flow sheet, record:

- Name of physician or nurse taking sample
- Any procedural complications
- Amount of blood collected, specifying type of culture obtained.
- Infant tolerance

NURSING PRACTICE STANDARD

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References:

1. BC Womens Hospital Neonatal Program Policy and Procedure Manual. NN.16.01 (2007) Blood Culture Collection. Accessed August 16 2017 at: <http://policyandorders.cw.bc.ca/>
2. Garnder, SL., Carter, B.S., Enzman-Hines, M., & Hernandez, J.A. (2011). Merenstein & Gardner's Handbook of Neonatal Intensive Care, 7th edition. St. Louis: Mosby-Elsevier.
3. PHC Pathology and Laboratory Medicine Accessioning Ward Manual (March 2016) accessed August 2017 at http://phc-connect.vch.ca/policies_manuals/pathology/AccessioningPolicies/Documents/Accessioning%20ward%20manual.pdf
4. Veklan, M. T. & Walden, M (2014). Core Curriculum for Neonatal Intensive Care Nursing, 5th Edition. St.Louis: Saunders-Elsevier.
5. Blood Specimen Collection (Venipuncture) Neonatal (2017) Elsevier Skills. St. Louis, MO. Elsevier. Retrieved August 16 2017 from www.elsevierperformancemanager.com

Persons/Groups Consulted:

RN NICU

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Maternity Safety and Quality Council

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