LOCAL OPERATING PROCEDURE

NEONATAL SERVICES DIVISION

Approved by Quality & Patient Care Committee
19 April 2018

HEEL PRICK FOR BLOOD SAMPLING

This LOP is developed to guide safe clinical practice in Newborn Care Centre (NCC) at The Royal Hospital for Women. Individual patient circumstances may mean that practice diverges from this Local Operations Procedure (LOP). Using this document outside the Royal Hospital for Women or its reproduction in whole or part, is subject to acknowledgement that it is the property of NCC and is valid and applicable for use at the time of publication. NCC is not responsible for consequences that may develop from the use of this document outside NCC.

1. AIM

- To collect capillary blood by correct heel stick technique

2. PATIENT

- Newborns

3. STAFF

- Medical and nursing staff

4. EQUIPMENT

- Gloves
- Gauze
- Appropriate Puncture Device
- 2% Chlorhexidine Swab
- Required Blood/Capillary Tubes
- 25% Oral Sucrose

Device	Device Name	Device Type	Width x Depth (mm)	Intended Use[4]	
	BD Microtainer® Contact-Activated Lancet (Purple)	Puncture (needle)	30 G x 1.5 mm	Fingerstick – Low Flow (single drop) Demonstrates significantly less pain for your patients than comparable products*	Preterm (BSL only)
	BD Microtainer® Contact-Activated Lancet (Pink)	Puncture (needle)	21 G x 1.8 mm	Fingerstick – Medium Flow	Term (BSL only)
	BD Microtainer® Contact-Activated Lancet (Blue)	Puncture (blade)	1.5 mm x 2.0 mm	Fingerstick – High Flow (500 µL from single puncture)	Not used in NCC
	BD Microtainer® Quikheel™ Lancet (Pink)	Incision (blade)	1.75 mm x 0.85 mm	Heelstick – Low Flow (premature infants) Low birth-weight babies or full-term infants where lower blood volume is required	Preterm (all other blood tests)
	BD Microtainer® Quikheel™ Lancet (Teal)	Incision (blade)	2.5 mm x 1.0 mm	Heelstick – High Flow (infants) Full-term infants where higher blood volume is required	Term (all other blood tests)

* BD Clinical Documentation VS7499

Picture 1

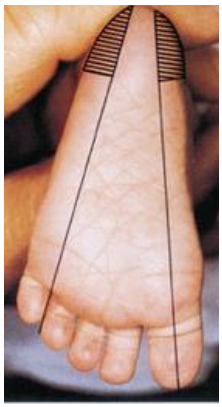
CLINICAL PRACTICE

Procedure:

1. Perform hand hygiene and clean blue tray. [R1]
2. Collect equipment. Select the appropriate puncture device (Picture 1). [R2]
3. Administer 25% sucrose and provide comfort measures. [R3]
4. Perform hand hygiene, apply gloves and prepare equipment. [R4]

HEEL PRICK FOR BLOOD SAMPLING cont'd

5. Nominate an area for puncture on the foot on the medial or lateral plantar surface (Picture 2). [R5]



Picture 2

6. Select the surface area to puncture. Continue in a "stepping" ladder pattern from the first puncture for subsequent blood sampling. [R6]

7. Clean foot with 2% chlorhexidine wipe and allow 30 seconds to dry completely. [R7]

8. Puncture heel holding the puncture device at a 90 degree angle (Picture 3 & 4). [R8]

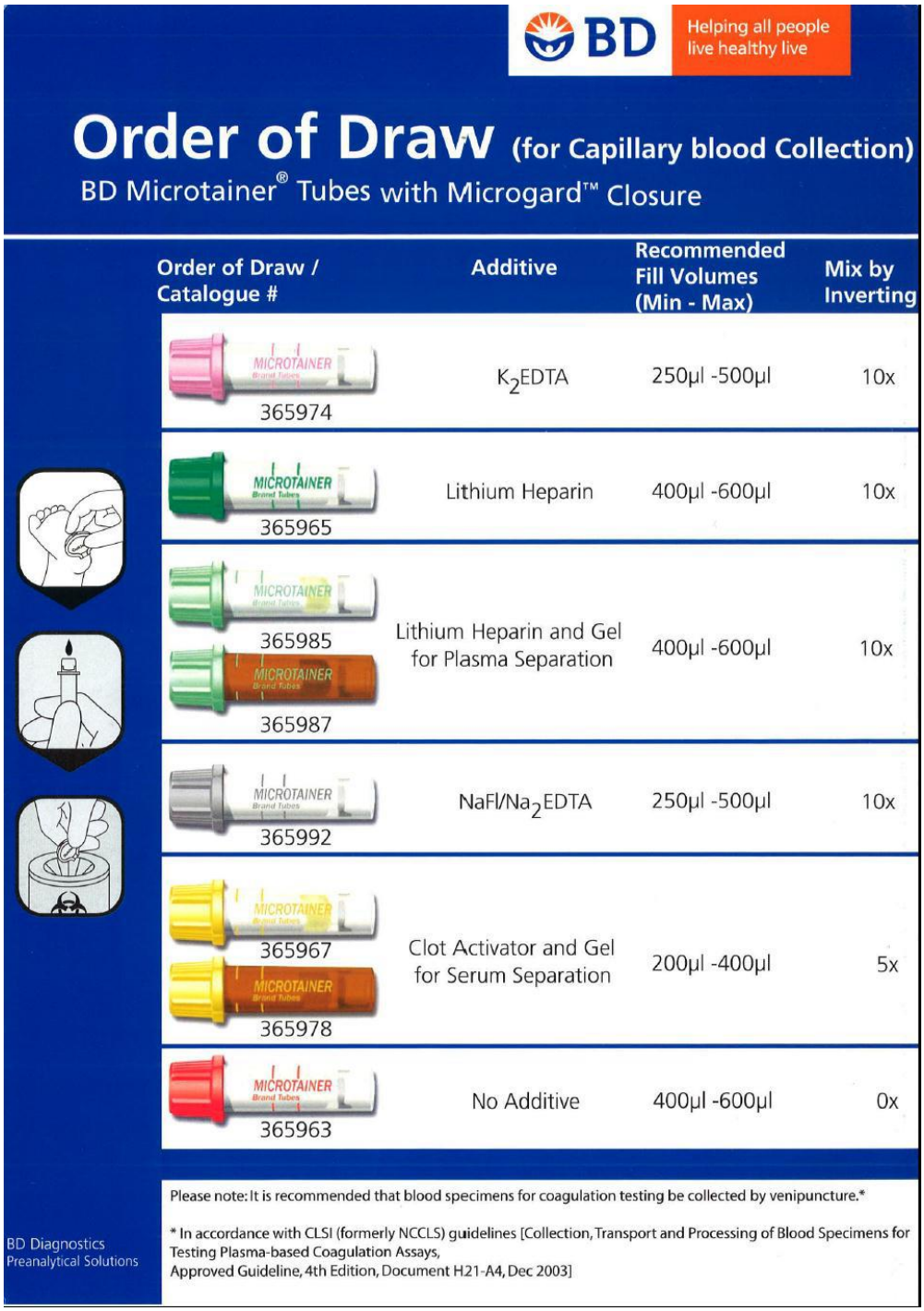
Picture 3

Picture 4

9. Wipe away first drop of blood with gauze. [R9]

HEEL PRICK FOR BLOOD SAMPLING cont'd

10. Collect blood in correct Order of Draw (Picture 5), gently agitating tubes between each drop while avoiding scraping and scooping. [R10]



BD Helping all people live healthy live

Order of Draw (for Capillary blood Collection)

BD Microtainer® Tubes with Microgard™ Closure

Order of Draw / Catalogue #	Additive	Recommended Fill Volumes (Min - Max)	Mix by Inverting
365974	K_2EDTA	250µl -500µl	10x
365965	Lithium Heparin	400µl -600µl	10x
365985 / 365987	Lithium Heparin and Gel for Plasma Separation	400µl -600µl	10x
365992	NaFl/Na_2EDTA	250µl -500µl	10x
365967 / 365978	Clot Activator and Gel for Serum Separation	200µl -400µl	5x
365963	No Additive	400µl -600µl	0x

Please note: It is recommended that blood specimens for coagulation testing be collected by venipuncture.*

* In accordance with CLSI (formerly NCCLS) guidelines [Collection, Transport and Processing of Blood Specimens for Testing Plasma-based Coagulation Assays, Approved Guideline, 4th Edition, Document H21-A4, Dec 2003]

BD Diagnostics Preanalytical Solutions

Picture 5

HEEL PRICK FOR BLOOD SAMPLING cont'd

11. Seal blood containers. [R11]
12. Apply direct pressure to puncture site until bleeding stops. [R12]
13. Label collection tubes with correct infant's name label. [R13]
14. Dispose of puncture device in sharps container. [R14]
15. Collect and dispose of remaining equipment. [R15]
16. Clean blue tray and remove gloves. [R16]
17. Perform hand hygiene. [R17]

5. DOCUMENTATION

- eMR nursing notes
- Daily Care Plan
- Neonatal Observation Chart

6. RISK RATING

- Low

7. NATIONAL STANDARD

- Standard 1 Governance for Safety and quality in Health Service Organisation
- Standard 3 Preventing and Controlling Healthcare Associated Infections
- Standard 12 Provision of Care

8. ABBREVIATIONS AND DEFINITIONS OF TERMS

NCC	Newborn Care Centre	BSL	Blood Sugar Level
LOP	Local Operations Procedure		

9. RATIONALES

R1	To prevent cross contamination and provide a clean working surface
R2	To be prepared for procedure
R3	To provide developmentally sensitive care
R4	To prevent cross contamination and to meet area health infection control guidelines
R5	To prevent damage to bone, tendons, cartilage and nerves
R6	To allow more area for multiple heel sticks
R7	The bacteriostatic effect of the chlorhexidine is dependent on adequate drying time
R8	Creates a gap puncture which opens when pressure is applied and allows blood to flow freely
R9	To remove platelet plug that forms at puncture site that initiates the clotting process
R10	To decrease chance of haemolysis and and/or skin and tissue contamination of the specimen
R11	To prevent loss of specimen
R12	To stop bleeding
R13	To ensure correct identification of blood sample, diagnosis and treatment to the correct patient
R14	To avoid needle stick injury
R15	To leave a clean work space
R16	To prevent cross contamination and to meet area health infection control guidelines
R17	To adhere to 5-Moments of Hand Hygiene

HEEL PRICK FOR BLOOD SAMPLING cont'd

10. REFERENCES

1. BD Asia Pacific, 2010. Capillary Blood Collection – Key Aspects of Best Practice, Sources of Preanalytical Error and Laboratory Workflow Challenges. Asia Pacific Preanalytical Notes, 13 (1), p2-4.
2. BD Diagnostics 2009. Capillary Blood Collection: Best Practices. Lab Notes, 20 (1), p1-5.
3. CLSI H4-A5. Procedures and Devices for the Collection of Diagnostic Blood Specimen by Skin Puncture, Approved Fifth Edition, 24 (21).
4. Folk, L.A., 2007. Guide to Capillary Heelstick Blood Sampling in Infants, Advances in Neonatal Care, 7 (4), p171-178.
5. Jain, A., Rutter, N., 1999. Ultrasound Study of Heel to Calcaneum Depth in Neonates. Archives of Disease in Childhood, 80 (3), pF243
6. NSW Health, 13th September 2010. Hand Hygiene Policy, PD2010_058, H10/62330-5.
7. NSW Health, 23rd May 2010. Infection Control Policy, PD2007_036.
8. NSW Health, 29th June 2007. Sharps Injuries - Prevention in the NSW Public Health System, PD2007_052.
9. ANTT® Clinical Practice Framework, Version 3.1Copyright 2013. The Association for Safe Aseptic Practice (ASAP). www.antt.org.

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REVISION & APPROVAL HISTORY
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