LOCAL OPERATING PROCEDURE

NEONATAL SERVICES DIVISION

Approved by Quality & Patient Care Committee
August 2018

INTRAVENOUS THERAPY

This Local Operating Procedure 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 Operating Procedure.
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.

INTRODUCTION

Intravenous administration of fluids, electrolytes, glucose and medications are standard care for premature and/or sick infants. In neonates, parenteral fluid therapy must take into account large insensible fluid losses and adaptive changes of renal function in the first days of life. IV fluids can have serious and even fatal consequences if not prescribed and administered correctly.

1. AIM

- To ensure safe administration of intravenous (IV) therapy

2. PATIENT

- Newborns

3. STAFF

- Medical and nursing staff

4. EQUIPMENT

- Volumetric infusion pump (Agilia Volumet MC) and administration set including in-line burette
- Syringe driver (Alaris GH) and extension line attached to syringe

NOTE: Sterile ANTT must be used for accessing all central lines and all TPN changes

5. CLINICAL PRACTICE

Procedure:

Set-up

1. Refer to Appendix 1 for Agilia Volumet MC page 10-14
2. Refer to Appendix 2 for Alaris GH page 11-13

Commencement

3. IV fluids are to be checked before administration with another Registered Nurse for:
    - Patient's name
    - Medical Record Number on fluid/medication order and on ID band
    - Correct order written clearly and legibly using approved abbreviations only
    - Signature of medical officer
    - Correct IV fluid strength and expiry date
    - Correct IV rate
    - Correct IV route
    - Discolouration of IV fluids or foreign particles (discard contaminated bags).
4. Ensure essential elements are completed at commencement of IV therapy
    - Observe hand hygiene and ANTT
    - Ensure that the IV access is patent, dressing intact and the condition of the site is checked with the Visual Infusion Phlebitis (VIP) score
    - Scrub the hub with 2% Chlorhexidine gluconate in 70% isopropyl alcohol for 30 seconds and allow to dry prior to attaching appropriate device to IV access.
    - Administration sets must be labelled with the date of commencement.
    - Check that 'Maximum Pressure' on the access device is set at 75mmHg and the 'Volume Limit' is set at the same amount as the 'Set Rate'

INTRAVENOUS THERAPY cont'd

Change of Giving Set

5. Change after 48 hours if prescribed IV fluids not changed for other reasons
6. Ensure the neonate receives the new type of IV fluids promptly when IV fluid orders are changed.
7. Change if giving set becomes contaminated or leaking.

Additives

8. Drugs administered as an IV infusion may be inserted into a burette of an infusion set or in a syringe for use in a syringe driver. The most appropriate method should be selected depending on volume of diluent required and intended rate of delivery.
9. Ensure essential elements are completed at commencement of IV therapy:
    - All additives to be checked with another Registered Nurse as per medication protocol
    - Observe hand hygiene and ANTT
    - Scrub the hub of the burette with 2% Chlorhexidine gluconate in 70% isopropyl alcohol for 30 seconds and allow to dry prior to instilling additives
    - Rotate to mix solution
    - Do not add more than one drug to a burette unless specifically ordered by a medical officer
    - Check compatibility
    - Attach a completed drug label detailing the drug, dose, diluent, volume of diluent, date, time and signature of the nurse and the staff who double checked

Bolus Injection

10. Between intermittent infusions, IV accesses should be flushed with 0.9% sodium chloride once IV line is disconnected from the cannula to maintain patency and clearing of medication residue.
11. Ensure essential elements are completed at commencement of IV therapy:
    - All bolus injections to be checked with another Registered Nurse as per medication protocol
    - Observe hand hygiene and ANTT
    - Scrub the hub of the access port with 2% Chlorhexidine gluconate in 70% isopropyl alcohol for 30 seconds and allow to dry prior to instilling bolus IV medication
    - Check compatibility and administer the medication
    - Attach a completed drug label detailing the drug, dose, diluent, volume of diluent, date, time and signature of the nurse and the staff who double checked

Management

12. Ensure that the IV access is securely taped and allows maximum observation of insertion site by not covering with clothing or blankets.
13. Use transparent IV dressings, tape (Leukoplast) and arm board.
14. Observe the IV access hourly for:
    - Secure placement
    - Changes in the site around the cannula insertion and the fluid tracking direction
    - Redness, swelling, blanching and pain, and report and record observations and changes in condition by using VIP score
15. Check the infusion pump hourly for:
    - The correct infusion rate
    - Volume and rate of infusion
    - Pump pressure
    - The presence of IV fluid in burette
    - Leakage from the giving set or from IV access
16. The presence of any atypical findings or complications and any actions taken should be documented in eMR (IIMS should be completed for all IV extravasations).

INTRAVENOUS THERAPY cont'd

17. Daily documentation should include:
    - Position of intravenous access (eg. right cubital fossa)
    - IV access site checks using VIP score
    - IV access insertion date and time
    - IV therapy prescription shift check
    - IV fluid change witnessed by another Registered Nurse

6. DOCUMENTATION

- eMR nursing notes
- Neonatal Observation Chart
- NICUS database

7. RELATED POLICIES/PROCEDURES/CLINICAL PRACTICE LOP

- Extravasation and infiltration injuries prevention and management
- Intravenous Cannula - Intravenous Cannula Insertion

8. RISK RATING

- Low

9. NATIONAL STANDARD

- Standard 1 Governance for Safety and quality in Health Service Organisation
- Standard 3 Preventing and Controlling Healthcare Associated Infections
- Standard 4 Medication Safety
- Standard 5 Patient Identification and Procedure Matching

10. ABBREVIATIONS AND DEFINITIONS OF TERMS

NCC	Newborn Care Centre	VIP	Visual Infusion Phlebitis
IV	Intravenous	IIMS	Incident Information Management System
ANTT	Aseptic Non-Touch Technique		

11. REFERENCES

- NSW Ministry of Health Guideline GL2015_008. "Standards for Paediatric Intravenous Fluids: NSW Health (second edition). Date of Publication 31 August 2015.
- NSW Ministry of Health Policy Directive PD2013_043. "Medication Handling in NSW Public Health Facilities". Date of Publication 27 November 2013.
- NSW Ministry of Health Policy Directive PD2010_034. "Children and Adolescents – Guidelines for Care in Acute Care Settings". Date of Publication 2 June 2010.
- NSW Ministry of Health Policy Directive PD2016_058. "User-applied Labelling of Injectable Medicines, Fluids and Lines". Date of Publication 22 December 2016.
- Ullman AJ, Cooke ML, Gillies D, Marsh NM, Daud A, McGrail MR, et al. Optimal timing for intravascular administration set replacement. Cochrane Database of Systematic Reviews 2013, Issue 9. Art. No.: CD003588.

12. AUTHOR

Primary	25/7/2018	S Wise (Nursing Co-Director), E Jozsa (CNE)

REVISION & APPROVAL HISTORY

July 2018 Primary (This LOP is an amalgamation of three existing NCC LOPs [Intravenous Fluids - Nursing Guidelines 1; Intravenous Fluids - Nursing Guidelines 2; Intravenous Medication-Administration Nursing Staff])

FOR REVIEW: 2023