LOCAL OPERATING PROCEDURE

NEONATAL SERVICES DIVISION

Approved by Quality & Patient Care Committee
June 2019

ANTINEOPLASTIC MEDICATIONS – ADMINISTRATION IN NEWBORN CARE CENTRE

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.
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1. AIM

- To provide guidelines for safe administration of intravenous antineoplastic (cytotoxic) medications via intravenous cannula (IVC), peripherally inserted central catheter (PICC) or other central venous access device (CVAD)
- To provide guidelines for safe administration of enteral antineoplastic medications via intragastric tube (IGT)

NOTE:
Only health care professionals who have attained competency in safe administration, and handling and waste management of hazardous drugs (as per institutional guidelines) should perform this procedure.

2. PATIENT

- Newborns

3. STAFF

- Medical and nursing staff

4. EQUIPMENT

- Medication chart
- Personal Protective Equipment (PPE) [Appendix 1]
- Trolley; surface cleaned with neutral detergent
- Medication(s) to be administered (in leak proof, sealable bags)
- Blue tray
- Cytotoxic label
- Plastic-backed absorbent sheet (bluey) x 2
- Gauze square
- Hazardous/cytotoxic zip lock bag
- Hazardous/cytotoxic waste bag
- Spill kit

Intravenous administration

- Sodium chloride 0.9% label (sterile for PICC/CVAD)
- Sterile plastic sheet (only required for PICC/CVAD)
- Extension lines x 2
- Three way tap
- 10mL syringe for flushing cannula before and after administration of medication
- 10 mL sterile sodium chloride 0.9% ampoule
- Drawing up needle
- 2% chlorhexidine + 70% alcohol swabs

Enteral administration

- Feeding syringe
- Drawing up device
- Water for injection
- 2.5mL feeding syringe

ANTINEOPLASTIC MEDICATIONS – ADMINISTRATION IN NEWBORN CARE CENTRE cont'd

5. CLINICAL PRACTICE

INTRAVENOUS ADMINISTRATION

Preparation

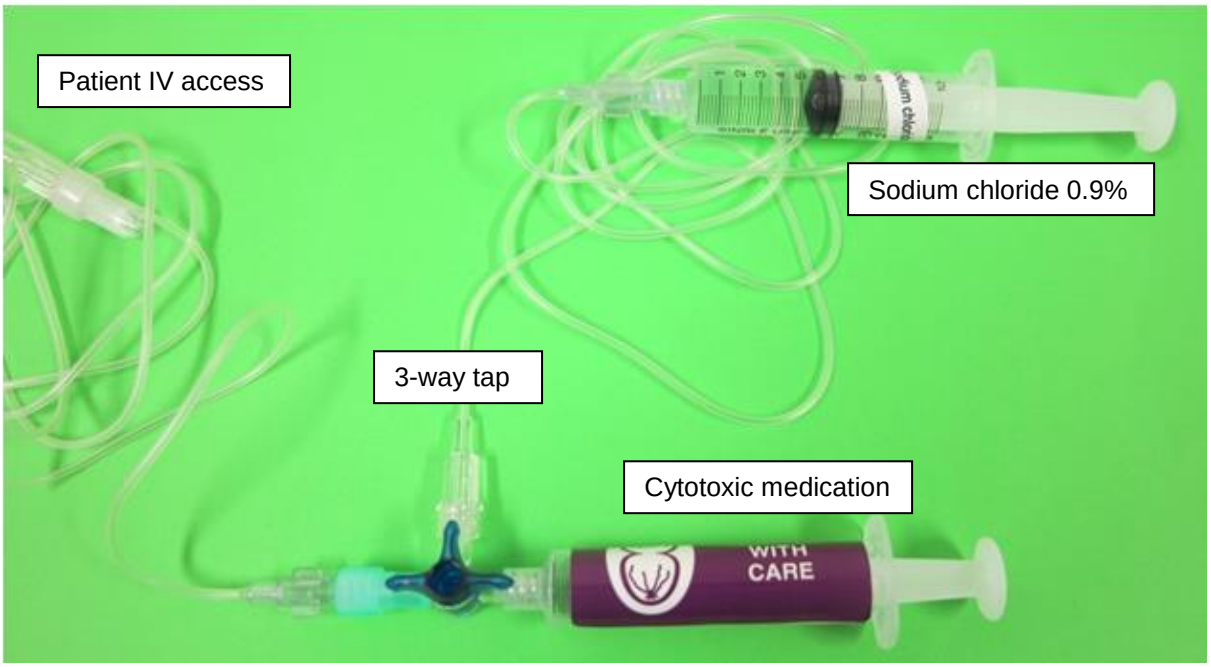
1. Ensure the medication order is correct.
2. Transport medication to the patient in a sealed and labelled "Cytotoxic" container from medication room on a blue tray lined with a plastic backed absorbent sheet (bluey).
3. Assess patient for side effects and previous adverse events.
4. Perform hand hygiene.
5. Attach cytotoxic label to CVAD/PICC line or IVC.
6. Ensure the CVAD/PICC line or IVC is stabilised and secured with a transparent dressing to allow the site to be visualised.
7. Check that the intravenous infusion flows freely or capped IVC is patent.
8. Place a plastic backed protective sheet underneath the CVAD/PICC line or IVC.
9. Check medications (and fluids) with another accredited health professional against prescription and treatment protocol.
10. Don PPE.
11. Don sterile gloves over cytotoxic gloves (only required for PICC/CVAD).
12. Second RN to don PPE (only required for PICC/CVAD).
13. Set up equipment in blue tray lined with plastic backed absorbent sheet (for IVC) or with the help of second accredited RN on trolley covered with sterile plastic sheet (for PICC/CVAD):
    - medications to be administered
    - sodium chloride 0.9% ampule for flush
    - sodium chloride 0.9% label
    - extension lines X 2
    - three way tap
    - drawing up needle
    - gauze square
    - 2% chlorehexidine + 70% alcohol swabs
14. Inspect drug container for leakage, drug cloudiness and particulate matter.
    - If particulate matter or cloudiness present, contact pharmacy for further instructions
    - If leakage noticed, contact pharmacy for further instructions
15. Perform **Time out** procedure. [Appendix 2]

Administration

16. Draw up 10mL of sodium chloride 0.9% and label syringe.
17. Connect syringe to an extension line.
18. Connect extension line to three way tap.
19. Connect second extension line to the top port.

ANTINEOPLASTIC MEDICATIONS – ADMINISTRATION IN NEWBORN CARE CENTRE cont'd

20. Prime all ports of three way tap with sodium chloride 0.9%.



NB. Do not expel air from prefilled medication syringe

21. Connect cytotoxic medication syringe to the third port of three way tap ensuring lock connection is secure.
22. Clean side port or hub of CVAD/PICC or IVC with 2% chlorehexidine + 70% alcohol swab, let it dry.
23. Use sterile gauze to hold side port or hub while attaching medication to CVAD/PICC line or IVC.
24. Remove PPE and discard in cytotoxic waste bag.

25. Use hand rub prior to programing infusion pump.

ANTINEOPLASTIC MEDICATIONS – ADMINISTRATION IN NEWBORN CARE CENTRE cont'd

26. Monitor patient for signs and symptoms of extravasation and hypersensitivity and/or infusion related reactions.
    - If extravasation is suspected stop the infusion
    - Check the insertion site for signs of leakage and oedema
    - If any doubt do not proceed
    - Review and manage according to the suspected extravasated drug
    - If hypersensitivity or infusion related reaction is suspected, stop the infusion and refer to protocol for management

27. Flush the line with 3mL sodium chloride 0.9% on completion of drug administration via a separate syringe already attached via three way tap.

28. Don cytotoxic gloves.
29. Disconnect administration set using gauze squares from CVAD/PICC line or IVC.
30. Dispose of hazardous waste in purple zip lock bag including plastic backed absorbent sheets and gauze squares used.
31. Discard zip lock bag in cytotoxic bag.
32. Perform hand hygiene.
33. Document procedure and follow up care in patient's medical record.

Post-procedure

34. Keep cytotoxic label on CVAD/PICC line or IVC for correct disposal upon removal of same.
35. Continue safe handling precautions until 7 days after completion of medication(s).
36. Return any unused medications to pharmacy.

ENTERAL ADMINISTRATION

Preparation

1. Ensure the medication order is correct.
2. Transport medication to the patient in a sealed and labelled "Cytotoxic" container from medication room on a blue tray lined with a plastic backed absorbent sheet (bluey).
3. Assess patient for side effects.

ANTINEOPLASTIC MEDICATIONS – ADMINISTRATION IN NEWBORN CARE CENTRE cont'd

4. Perform hand hygiene.
5. Attach cytotoxic label to IGT.
6. Don PPE.
7. Check medications against prescription with another health professional.
8. Perform **Time out** procedure. [Appendix 2]

Administration

9. Place second plastic backed absorbent sheet under the opening of IGT.
10. Take out medication from cytotoxic container and place it on the blue tray lined with plastic backed absorbent sheet (bluey).
11. Draw up medication via access device from bottle using a non-touch technique.
12. Return bottle to cytotoxic container and close lid.
13. Wrap gauze around opening of IGT.
14. Administer the medications in accordance with food precautions and drug interactions.
15. Ensure the IGT is flushed with 1mL of water for injection after administration of medication.
16. Dispose of hazardous waste including blueys, gauze square and administration devices in cytotoxic zip lock bag and close.
17. Dispose zip lock bag in cytotoxic waste bag.
18. Remove PPE and dispose in cytotoxic waste bag.
19. Perform hand hygiene.
20. Document procedure and follow up care in the patient's medical record.

Post-procedure

21. Take medication in its container back to medication room.
22. Keep cytotoxic label on IGT for correct disposal upon weekly change of IGT.
23. Continue safe handling precautions by wearing cytotoxic gloves when IGT accessed until 7 days after completion of medication(s).
24. Return any unused medications to pharmacy.

6. DOCUMENTATION

- Medication Chart
- Electronic Medical Record
- NICUS database

7. RELATED POLICIES/PROCEDURES/CLINICAL PRACTICE LOP

- Neonatal Nursing Guideline – Scrubbing, gowning-up and closed gloving for a sterile procedure

8. RISK RATING

- Low

9. NATIONAL STANDARD

- Standard 1 Clinical Governance
- Standard 3 Preventing and Controlling Healthcare-Associated Infection
- Standard 4 Medication Safety
- Standard 5 Comprehensive Care
- Standard 8 Recognising and Responding to Acute Deterioration

ANTINEOPLASTIC MEDICATIONS – ADMINISTRATION IN NEWBORN CARE CENTRE cont'd

10. ABBREVIATIONS AND DEFINITIONS OF TERMS

NCC	Newborn Care Centre	CVAD	Central Venous Access Device
IVC	Intravenous Cannula	IGT	Intragastric Tube
PICC	Percutaneous Intravascular Central Catheter	PPE	Personal Protective Equipment

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12. AUTHOR

Primary	23.5.2019	E Jozsa (CNE)

REVISION & APPROVAL HISTORY
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FOR REVIEW: 2024

…./Appendices

Appendix 1. Personal Protective Equipment (PPE)

Gloves

Glove use is essential and should be chosen to maximise protection by minimising permeability. Standard surgical gloves may not provide the required level of protection due to drug and/or carrier permeability.

- are disposable
- should be purpose manufactured or manufacturer recommended
- must be long enough to cover wrist cuffs of gown while arm is bent or stretched
- should be changed:
  - at the end of a procedure
  - prior to contact with another patient
  - at intervals of 30 minutes OR as recommended by the manufacturer OR when punctured torn or contaminated

Note: Workcover guidelines of Australia discuss wearing one pair as part of standard PPE, unless attending to a hazardous spill where 2 pairs are recommended.

Gowns

Gowns designed for use with hazardous drugs should be made of an impermeable material and should be changed as per the manufacturers' instructions. Care should be taken when removing the gown to minimise the risk of personal contamination.

- be long sleeved with elasticised wrists and have a closed front
- be disposed of immediately (as contaminated waste) if overt contamination occurs
- not be worn in non-clinical areas e.g. offices, tea rooms

Protective eye wear

Protective eye wear should be worn to protect against liquid splashes to the mucous membranes of the eye.

- can be provided by:
  - goggles
  - protective eye wear with side shields
  - a transparent full face chemical splash shield
  - full face respiratory protective equipment
- should be cleaned with neutral detergent solution and allowed to air dry at the end of the shift or when contaminated

Respiratory protective equipment

Respiratory protective equipment (RPE) with a P2 (N95) particulate filter, is recommended to contain aerosols generated by handling hazardous drugs; surgical masks do not provide sufficient protection. Workers must be fit tested as per the manufacturer’s instructions to ensure the mask is the correct size, especially for those who wear prescription glasses.

- the positive and negative pressure seal of the respirator should be tested to ensure correct fit by gently exhaling and inhaling; if air escapes, or the respirator is not drawn into the face during inhalation, the respirator needs to be adjusted.

Overshoes

- should be made of impervious material with skid resistant plastic soles
- should be worn when cleaning a hazardous drug or related waste spill

Removing and discarding PPE

PPE should be removed in the following order and disposed of in the cytotoxic waste to minimise exposure to any potential contaminants on the exposed PPE.

Removing PPE if wearing one pair of gloves

1. Remove gloves
2. Perform hand hygiene with soap and water
3. Remove protective eyewear or face shield
4. Remove gown
5. Remove respiratory protective equipment
6. Perform hand hygiene with soap and water.

Removing PPE if wearing two pairs of gloves

1. Remove outer glove
2. Remove protective eyewear or face shield
3. Remove gown
4. Remove respiratory protective equipment
5. Remove inner gloves
6. Perform hand hygiene with soap and water

List of Cytotoxic Drugs used in NCC

Drug name	Drug Class	Cited in WorkCover as Cytotoxic	Minimum PPE requirements
Gancyclovir	**Antiviral**	**yes**	**Full PPE**
Valganciclovir suspension	**Antiviral**	**yes**	**Full PPE**

Reference: Workcover 2008

Appendix 2. Antineoplastic drug time out checklist

Time out is the final patient safety check undertaken immediately before commencing a procedure. Two health professionals are to complete time out immediately prior to drug administration (as approved by local policy). The medical order should be verified and any identified discrepancies should be discussed with the prescriber and pharmacist prior to administration. Please write or circle the appropriate answer as indicated.

Protocol:_____

Date:_____ Cycle: _____Day:_____ Patient allergies/previous hypersensitivity drug reactions:_____

_____

Drug name	
Time of drug check	am/pm
Correct patient	Yes/No
Consent	Yes/No
Correct drug, dose and drug expiration*	Yes/No
Correct route (specify)	IV/PO/IM/SC
Correct rate and pump program checked	Yes/No
1st checker: signature & designation	
2nd checker: signature & designation	

If any of the above is answered with 'No' do not proceed with drug administration. Seek further advice from medical officer, pharmacist or senior nurse.

* Verify that all doses are correct according to protocol and patient parameters e.g., weight, body surface area (BSA), creatinine clearance, and that maximum and cumulative doses are not exceeded for the dose or the course according to the protocol.

Check any dose reductions are correct according to the protocol, patient parameters and doctor's instructions.

(NSW Health. 2007. Correct Patient, Correct Procedure and Correct Site Policy. PD2007_079. NSW Dept of Health. 2007)