GUIDELINE

Medication Administration

Scope (Staff):	Nursing and Medical Staff
Scope (Area):	NICU KEMH, NICU PCH, NETS WA

Child Safe Organisation Statement of Commitment

CAHS commits to being a child safe organisation by applying the National Principles for Child Safe Organisations. This is a commitment to a strong culture supported by robust policies and procedures to reduce the likelihood of harm to children and young people.

This document should be read in conjunction with this disclaimer. Also Refer to:

- CAHS Medication Safety Policy; CAHS Medication Administration Policy;
- CAHS High Risk Medicines; CAHS Medication Refrigerators and Freezers Policy
- CAHS Medication Administration Policy: (Appendix 1) for the Summary of Medication Administration Restrictions by Staff Designation)

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Aim

Provide instructions on the correct process for neonatal medication administration.

Risk

Failure to follow these directions can lead to medication errors and adverse events

Key Points

- All medications that require formal written consent must **NOT** be prescribed before consent has been given and sighted.
- All medications (oral, IV, IMI, subcutaneous) administered to neonatal patients admitted to the NICU, MUST involve an independent second check.
- All staff administering medications to neonates MUST be deemed competent.
- The person administering a medication is accountable for the safe administration of medications. This requires a sound knowledge of the use, action and usual dose, frequency of use, route of administration, precautions and adverse effects of the medications being administered. See Appendix 1 Medication Round Procedure
- For central lines, please refer to CVAD guidelines, CAHS Allergy and Adverse Drug Reaction Management Policy (3B NICU) **and** CAHS Medication Refrigerators and Freezers Policy (3B NICU)
- WNHS Pharmacy Policies: High Risk Medicines, Medication Administration, Reporting Medication Incidents and Near Misses, Neonatal Medication Protocols **and** KEMH Cold Chain Breach Procedure QRG.

The 6 Rights of Safe Medication Administration

The six rights of safe medication administration outline the correct method of identifying that the correct patient is receiving the correct medication and MUST be checked for every medication order:

1. **Right patient** (with 3 identifiers)
   - Check 3 identifiers (e.g. patient name, date of birth, UMRN)
2. **Right medication**
   - Name, strength, and formulation
   - Ensure the above match the prescription with the label on the immediate container.
   - Check the expiry date and date opened (for oral medications).
3. **Right dose**
   - Ensure that an appropriate dose has been prescribed.
   - Ensure the correct dose and form has been dispensed.
   - Where a calculation is required, ensure two authorised health professionals perform an independent calculation.

4. **Right route** (IV, IMI, S/C, oral)
5. **Right time** (and date)
    - Ensure the timing and frequency of administration matches that charted.
    - If the medication is to be given more than 30 minutes from the specified administration time, the time of administration should be recorded.
6. **Right documentation**
    - Sign the medication chart.
    - Document any deviations from the prescription in the patient's progress notes.

Checking a Medication Order

Always check the medication order for completeness before administering a medication. This includes checking all the following on the medication order:

- For medications that need formal written consent from parents, sight consent if applicable.
- The name of the medication to be administered.
- The dose, frequency, and times for administration
- Check when drug levels are due or if already done what are those and if dose needs adjustment
- The indication
- The route of administration
- The prescription date
- The prescriber's name and signature (must be legible/identifiable)

Independent Second Check

The process for an independent second check of medications requires that each staff member:

- Independently checks the six rights including **calculations** without cues from the other person
- Witnesses the preparation of the medication, including addition of diluents
- Confirms the final dose / volume to be administered to the patient.

Medication Dose Rounding Rules

- Before prescribing ask “Is this a sensible dose”?
- This is for medication charts only. Please DO NOT round doses in infusions

Dose	Rounding	Example
Less than 1 mg	Prescribe in **MICROGRAMS** If not possible do not round	0.13 mg to be prescribed as 130 micrograms
Less than 10 mg	Round to the **nearest 0.1** **(One decimal place)**	6.33 mg round **down** to 6.3mg 6.45 mg round **up** to 6.5 mg
10 to 50 mg	Round to the **nearest whole number** - Round down with 4 or less - Round up with 5 or more	12.4mg round **down** to 12 mg 12.5 mg round **up** to 13 mg
Greater than 50 mg	Round to the **nearest whole number in multiples of ‘5’** - Round to 0 if digit is 1, 2, 8 or 9 - Round to 5 if digit is 3, 4, 5, 6, or 7	62 mg round **down** to 60 mg 63 mg round **up** to 65 mg 67 mg round **down** to 65 mg 68 mg round **up** to 70 mg

Antimicrobial Stewardship

Antimicrobial stewardship refers to a collection of interventions designed to assist clinicians with decisions regarding the optimal selection, dose, route, timing, and duration of antimicrobial agents. See CAHS Antimicrobial Management Program (ChAMP) Policy and WNHS Antimicrobial Stewardship Policy

Documentation

- Indication for antimicrobials and the proposed duration of treatment is to be documented in the medication chart MR811.00/MR860.00 and a more detailed account for the rationale for treatment and proposed duration of treatment is to be documented in the inpatient progress notes.
- Proposed duration of treatment is to be added to the patient problem list MR485.03 for quick reference.
- Initial review by medical staff on first prescription:
    - KEMH is at 36 hours or sooner if negative microbiological results are confirmed.
    - 3B is at 48 hours or sooner if negative microbiological results are confirmed.
- Indication to be documented as ‘confirmed EOS or LOS or NEC’ OR ‘probable EOS/LOS/NEC’ and the planned number of days to treat in the free text field. Write the day of antibiotic therapy under the date on the medication chart.

Review / Stop Date

- For empiric therapy- antibiotics are to be reviewed daily medical staff according to microbiology results and clinical progress.
- On the agreed review date, review the duration of therapy in relation to ceasing, changing or continuing antibiotics.

AMS Rounds, Approvals and Advice

- Antimicrobial use is monitored weekly at the grand round.
- Antimicrobials which are restricted on formulary One or medication monographs should be initiated by a consultant or senior registrar and discussed with either the microbiology service on call for KEMH/PCH or the PCH infectious diseases team within 24hours of first administration.
- For antimicrobials that are highly restricted, restriction criteria are documented in formulary One and require approval from Infectious Diseases or Clinical Microbiology prior to commencement.
- Antibiotic advice is available 24/7 through either the PathWest KEMH/PCH microbiology team or PCH infectious diseases team.

Intravenous

- Use aseptic technique and follow standard infection control procedures for all cannula site care.
- Each connection provides a potential break in the line with subsequent contamination risk.
- The cannula and extension set must be secured and stabilised in a manner that does not interfere with accessing and monitoring of the site.
- If the cannula requires removal, scissors are not used to remove the strapping.
- The cannula insertion site must not be enclosed in covering e.g., mittens, cloth wraps, swaddling

Equipment

- Blue tray
- 2%Chlorhexidine/alcohol swab
- IV medication and Saline flush

Procedure

1. Confirm patient ID
2. Prepare and gather equipment and clean tray
3. Clean hands and don gloves. Open equipment, checking expiry dates

Prepare the medication as per WNHS Neonatal Medication Protocols and label syringe/s. Excess volume should be removed once the line is primed leaving only the dose to be delivered

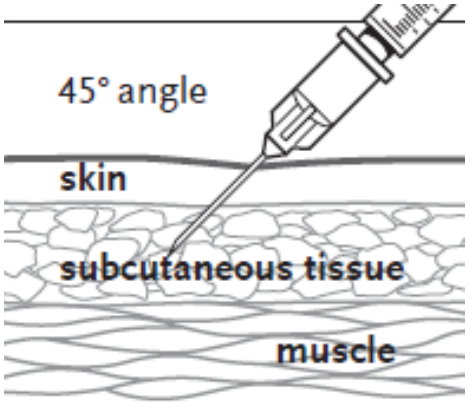
4. If IV port is not exposed and/ or gloves are contaminated clean hand and re-glove.
5. Scrub key part with 2% chlorhexidine/alcohol wipe for a total of 20 seconds. Allow to dry completely
6. Insert the normal saline filled syringe into the access port and flush with 0.5mL
7. While administering the medication and / or flush observe for:
   - Resistance
   - Pain
   - Swelling or leaking around the insertion site
8. If any of the above signs or symptoms occurs, cease administration, and notify the Medical Officer
9. Remove the flush syringe and connect the medication syringe to the access port. Ensure that no air enters the system
10. Administer the medication as per neonatal medication protocol.
11. After completion, attach the flush syringe and flush the line with 0.5mL 0.9% normal saline. The flush is to be given at the same rate as the medication to avoid rapid infusion of any medication that remains in the IV line/ cannula
12. Ensure that both clamps are in the closed position after all line access if a continuous infusion is not in progress
13. Discard equipment and perform Hand Hygiene
14. Document and sign for medication/ flush

Subcutaneous

1. Use aseptic technique
2. Preferred site is the anterolateral thigh into the fatty tissue
3. A 25G, 16mm length needle should be used. The volume should not exceed 1mL
4. For repeat injections sites should be rotated or consider the use of an indwelling subcutaneous catheter e.g., Insuflon™

Equipment

- 1% Chlorhexidine /Alcohol swab
- Cotton wool swab
- SC medication
- Gloves for standard precautions
- Neonatal medication chart / consent form
- Oral sucrose



Procedure

1. Check the drug/dose/time/route/patient is documented on the medication chart MR811. Check the ID band.
2. Draw the medication up into the syringe using a large bore needle and then change the needle to 25G/16mm needle.
3. Administer oral sucrose.
4. A second staff member may be needed to help position the infant. Consider swaddling the upper torso of the infant.
5. Undo the infant's nappy to access the anterolateral thigh and position the limb to relax the muscle.
6. Swab the area with chlorhexidine/alcohol swab – allow to dry before injection to reduce irritation of injection site.
7. Use index finger and thumb to pinch up subcutaneous tissue to prevent injection into the muscle. Pierce the skin at an angle 45° to the skin and slowly inject the medication to minimise infant discomfort.
8. Remove the needle and apply pressure with cotton wool ball.
9. Observe site for local inflammation.
10. Dispose of sharps and complete documentation / sign medication chart.

Insuflon™ Subcutaneous Device

An indwelling subcutaneous cannula that may be used to reduce the need for repeated injections of subcutaneous medications and can remain in place for up to 7 days. Refer to Subcutaneous Insuflon™ Catheter

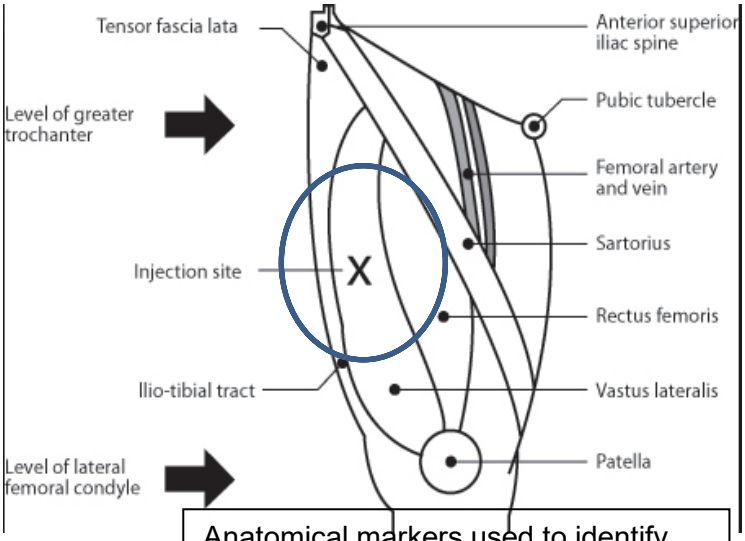
Intramuscular

1. The anterolateral thigh is the preferred site for IM injection. Medications are injected into the bulkiest part of the vastus lateralis thigh muscle, which is the upper and middle thirds of the muscle.
2. Use a 25 gauge and 16mm length needle. The volume should not exceed 1mL.
3. When two intramuscular injections are given, one injection should be given in the right thigh and the other injection should be given in the left thigh.

4. The nappy can be undone to ensure the injection site is completely exposed and to allow clear identification of anatomical sites.

Equipment

- 1% Chlorhexidine /Alcohol swab
- Cotton wool swab
- IM medication
- Gloves for standard precautions
- Neonatal medication chart / consent form
- Oral sucrose



Anatomical markers used to identify the vastus lateralis. Injection site (**X**)

Procedure

1. Check the order on the medication chart MR811.
2. Check the correct drug/dose/time/route/patient.
3. Draw the medication up using a large bore needle then change the needle to 25G/16mm needle.
4. Administer oral sucrose.
5. A second staff member may be needed to help position the infant. Consider swaddling the upper torso of the infant.
6. Undo the infant's nappy to locate the upper / middle thirds of the vastus lateralis thigh muscle and position the limb to relax the muscle.
7. Swab the area with chlorhexidine/alcohol swab – allow to dry before injection to reduce irritation of injection site. Note: Allow to dry as the alcohol may interfere with medication especially with vaccines.
8. Pierce the skin at an angle of 90° to the skin and slowly inject the medication to minimise infant discomfort. Remove the needle and apply pressure with cotton wool ball.
9. Observe site for local inflammation.
10. Dispose of sharps and complete documentation / sign medication chart.

Oral

- All oral medications must be drawn up in the non-injectable enteral syringes to prevent accidental attachment to a parenteral injectable system
- Oral medications not administered immediately after preparing MUST be labelled appropriately an ensure oral medications are given at an appropriate time regarding enteral feeds.

Related CAHS internal policies, procedures and guidelines
Aseptic Technique in the Neonatal Unit (Neonatology) CAHS Allergy and Adverse Drug Reaction Management Policy (3B NICU) CAHS Medication Safety Policy CAHS Medication Preparation, Checking and Administration CAHS Medication Administration Policy CAHS ChAMP Policy CAHS High Risk Medicines
References and related external legislation, policies, and guidelines
Neonatal Medication Protocols (WNHS Pharmacy) Medication Administration (WNHS) Reporting Medication Incidents and Near Misses (WNHS) WNHS Antimicrobial Stewardship Policy WNHS High Risk Medicines

This document can be made available in alternative formats on request.

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Appendix 1 – Medication Round Procedure

Standardised medication round practice to reduce errors of inappropriate preparation, checking and administration of medications.

Nominated Nurse for the Medication Round	Bedside Nurse
• Trolley stocked? • Check with Coordinator/Codes and Float for any issues, e.g. priority patients, and/or complex, high-risk medications • Don **MEDICATION ROUND BIB** • Start the round	Prior to the round, check Medication Chart: • Meds last given are correct and signed for? • Meds due and route of administration? • Any assays due? E.g., Gentamicin • Any consents needed? E.g., Vit K, immunisations • Giving meds that are unfamiliar to you? Refer to Medication Monographs prior to commencement. • Any issues to resolve? E.g., IV AB's due but IV needs resiting. • Any additional preparation needed e.g, aseptic technique required for long line administration • Not able to be present during Medication Round? Handover medications/issues to a named person prior to leaving. E.g., absent due to meal break/MRI/back transfer

The medication round is NOT to be interrupted as this increases the likelihood of adverse events and unintended harm. See CAHS Speaking Up For Safety Policy

ALL medications given to neonates require an *independent second checker*

Follow the 6 Rights of Medication Administration INDEPENDENTLY:

RIGHT PATIENT	Check 3 identifiers: NAME, DATE OF BIRTH, UMRN
RIGHT MEDICATION	Name, strength, and formulation, expiry date; and date opened (for oral medications).
RIGHT DOSE	• Appropriate dose prescribed? Check Medication Monographs • Correct dose dispensed if prepared by CIVAS? • INDEPENDENT CALCULATION is required by EACH staff member
RIGHT ROUTE	IV, IMI, S/C, oral
RIGHT DATE & TIME	Timing and frequency on med chart appropriate? Check Medication Monographs
RIGHT DOCUMENTATION	Both staff members to SIGN the medication chart. Document any deviations from the prescription in the patient's progress notes

- **If the medication checking process is interrupted, both nurses MUST STOP the medication preparation completely and ONLY restart the process again when both nurses can concentrate.**
- **If the dilution of a medication is interrupted prior to completion the dilution process MUST start again from the beginning.**