Ashford and St. Peter's Hospitals
NHS Foundation Trust

Medication Errors in NICU

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Guideline History

Date	Comments	Approved By
Dec 2008	Compiled	A. Elmore, Matron
Jan 2011	Reviewed	A. Elmore, Matron Deborah Hopper, Paediatric Pharmacist
Nov 2014	Reviewed	
Nov 2021		Deborah Smith, Sister, NICU

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1. Guideline

01.1 The National Patient Safety Agency's (NPSA) definition of medication errors is: "Patient safety incidents involving medicines in which there has been an error in the process of prescribing, dispensing, preparing, administering, monitoring, or providing medicine advice, regardless of whether any harm occurred.

In neonates the use of high-risk, off-label and unlicensed medicines increases preventable medication-associated harm. (Neubert et al, 2004). Policies to endorse medication safety are essential and must be consistently revised.

Effective, independent double checks play an important role in medication safety. The method in which the double check is performed is critical to its effectiveness in preventing medication errors; both authorised Nurses need to separately check the components of the process, without knowing the results of their colleague.

An independent double check reduces the risk of confirmation bias that may occur if the same Nurse prepares and checks a medicine as that Nurse will likely see only what they expect to see, even if an error has occurred. Two people working independently are unlikely to make the same mistake. If they work together or influence the checking process by suggesting what the checker should find, both could follow the same path to an error. So, holding up a syringe and vial and saying "this is 5 units of insulin, can you check it?" is not effective because the person asking for the double check is influencing the person checking the product.

01.2 Purpose

- Promote medication safety.
- Prevent medications errors from occurring and reoccurring.
- Reduce risk of harm.
- Provide high quality care.

01.3 Scope

- Medicine errors in neonatal units
- Medication management --- '6' rights of medication safety
- Management of medicine administration errors

01.4 Responsibilities

All staff.

01.5 Cross-Reference(s)

- Medicine Management Policy
- Trust Policy for Reporting and Management of Incidents.
- Peth HA Jr. **Medication errors in the emergency department: a systems approach to minimizing risk**. *Emerg Med Clin North Am*, 2003; 1(1): 141-158.

- Ghaleb MA, Barber N, Franklin BD, et al. **The incidence and nature of prescribing and medication administration errors in paediatric inpatients**. *Arch Dis Child*, 2010; 95: 113–8.
- Conn RL, Kearney O, Tully MP, et al. (2019). **What causes prescribing errors in children?** Scoping review. BMJ Open, 2019; 9(8), e028680
- Ferner RE, Aronson JK. **Clarification of terminology in medication errors: definitions and classification**. *Drug Saf*. 2006; 29: 1011-22
- Krzyzaniak N, Bajorek B. **Medication safety in neonatal care: a review of medication errors among neonates**. *Ther Adv Drug Saf* 2016; 7(3): 102-19.
- **Medication Errors: Technical Series on Safer Primary Care**. Geneva: World Health Organization; 2016. Licence: CC BY-NC-SA 3.0 IGO.
- Neubert A, Dormann H, Weiss J, Egger T, Criegee-Rieck M, Rascher W, et al. **The impact of unlicensed and off-label drug use on adverse drug reactions in paediatric patients**. *Drug Saf.* 2004; 27: 1059-67.
- Nguyen, MNR et al. **Interventions to reduce medication errors in neonatal care: a systematic review**. *Therapeutic advances in drug safety* vol. 2018; 9 (2): 123-155.
- https://www.lincolnshirecommunityhealthservices.nhs.uk/application/files/1615/2931/3528/P_CIG_15_Management_of_Medication_Errors_Policy.pdf

01.6 Guideline

01.6.1 Medicine Errors in Neonatal Units

Include:

- Incorrect dose calculated when prescribing the medicine
- Incorrect prescribing of the unit of measurement
- Incorrect decimal point placement of the amount when prescribing
- Incorrect neonatal weight documented on drug chart
- Mistakes made in administration rate, route or timing.
- Incorrect dilutions made when preparing the medicine
- Incorrect settings entered onto infusion pumps
- Missed doses
- Other prescribing issues
- Incorrect medicine administered
- Wrong patient

01.6.2 Medication Management --- '6' Rights of Medication Safety

To reduce harm and to protect the interests of the patient and the Nurses involved.

Aspect	***Consideration***
Right Patient	Name band and cot card: check full name, hospital number and date of birth.
Right Drug	Check: • Correct drug • Prescription. • Expire date. • Different manufacture and respective preparation guideline. • Be aware of contra-indications.
Right Dose	• Check the prescription. • Check the units (of measurement). • Confirm the dose with the BNF, Medusa and/or unit formulary. • Calculate the dose and double-check with another Nurse, if required.
Right Route	• Check the prescription. • Check medicine can be given by route prescribed. • Confirm that the route prescribed is viable for the patient.
Right Time	• Check the frequency of medicine according to baby's age and gestation. • Confirm when the last dose was administered. • Double-check that the correct time is circled.
Right Documentation	• Ensure the medicine is prescribed correctly with a start and end/review date. • Be aware of which medicines require a single check, and which require a double check. Are you authorised to single check? • Sign for administration after the medicine has been administered. • If a medicine requires double-checking, ensure both Nurses have signed.

Assessment of the baby is also required to confirm the medicine is still required.

Ensure the baseline observations required are met.

Check that the parents understand what the medication is for.

Be aware that parents may refuse a medication to be given. If so, offer them an opportunity to discuss with a member of staff (Nurse/ Doctor/ Consultant or Sister-in-Charge).

Inform the parents who they need to contact in case of adverse effects/reactions (on the unit and post-discharge)

01.6.3 Management of Medicine Administration Errors

Immediate Response (when a medicine error is identified):
• **Assess patient condition and record observations.** • **Inform the Doctor and the Nurse-in-Charge.** • **Maintain patient stability.** • **Ensure appropriate medical action is taken, e.g., blood levels/antidote administration.** • **Request advice from the Pharmacist / prescriber / Toxbase regarding the possible outcomes of medication error.** • **Duty of Candour: parents will be informed by the Consultant/Nurse-in-Charge, as soon as appropriate.** • **Report the incident on the Datix system appropriately.** • **Document the episode accurately and precisely in the babies notes.**

Further Actions (when a medicine error is identified):
• **In case of a dispensing error, inform the Pharmacy Department, and if appropriate, make arrangements for re-dispensing.** • **If the error involves mechanical failure or malfunction of a pump, remove the pump from use, complete a yellow label with details of the fault and attach label to the pump.** ⇒ **Inform the Trust MHRA liaison representative of the mechanical fault and resulting medicine error.** → **The Trust MHRA liaison representative will report to the MHRA.** ⇒ **Do not send the pump for repair.** ⇒ **Inform the facilities manager of your actions so they are aware the pump is out of use.** • **If the Consultant or Nurse-in-Charge identify that it is appropriate, all persons involved in the drug error will be asked to write a statement on the Trust Statement forms.** • **At both medical and nursing safety huddles, clearly inform Doctor, Nurse and Nurse-in-Charge on the next shift, of the drug error and the actions still needing to be completed.** • **The incident report will be graded by the person investigating and handling the incident, in consultation with the Pharmacist or Clinical Governance team, if appropriate.** • **The 'handler' of the Datix will be responsible for investigating the incident.**

In Case of Overdose:
• **Discontinue the medicine immediately.** • **Where appropriate, if it is within ONE hour of an oral administration aspirate the contents of the stomach using an NGT/OGT. Inform the Registrar or Consultant.** • **If the overdose is due to an IV infusion error, immediately discuss with Registrar or Consultant, as the infusion may need to be stopped. NB. Be aware that in some cases stopping the infusion may be harmful to the patient.** • **Follow the steps mentioned by Immediate Response/ Further Actions.** • **In the event of an 'overdose' caused by an incorrect prescription, a doctor must 'cross off' and sign the drug prescription, so that no further doses of the incorrect amount can be given. In every case, the SHO/Registrar must review the prescription immediately, and make a decision whether to discontinue the drug, omit doses, prescribe alternative medication or prescribe a different dosage.**

In Case of Missed (Omitted) Dose:
• **Discuss with the Doctor responsible for the patient if it is appropriate to administer the dose at that time, or to wait until the next scheduled administration time.** • **Inform the Sister-in-Charge.** • **Make adjustments on the drug chart if appropriate (re-prescribing).** • **Parents will be informed by the Consultant/Sister-in-Charge soon as appropriate.** • **Report the incident via Datix.** • **Document the episode accurately and precisely in the babies notes.**

4. Guideline Governance

a. Scope

This guideline is relevant to all staff caring for babies across neonatal intensive care, transitional care and maternity.

b. Purpose

i. This guidelines aims to facilitate a common approach to the management of babies admitted under neonatal care. At times deviation from the guideline may be necessary, this should be documented and is the responsibility of the attending consultant.

ii. This guideline is subject to regular review to ensure ongoing evidence based practice.

c. Duties and Responsibilities

What is expected from the health care professionals using this guideline to look after infants.

d. Approval and Ratification

This guideline will be approved and ratified by the Neonatal Guidelines Group.

e. Dissemination and Implementation

i. This guideline will be uploaded to the trust intranet 'Neonatal Guidelines' page and thus available for common use.
ii. This guideline will be shared as part of ongoing education within the Neonatal Unit for both medical and nursing staff.
iii. All members of staff are invited to attend and give comments on the guideline as part of the ratification process.

f. Review and Revision Arrangements

a. This policy will be reviewed on a 5 yearly basis.
b. If new information comes to light prior to the review date, an earlier review will be prompted.
c. Amendments to the document shall be clearly marked on the document control sheet and the updated version uploaded to the intranet. Minor amendments will be ratified through the Neonatal Guidelines Group. A minor amendment would consist of no major change in process, and includes but is not limited to, amendments to documents within the appendices.

g. Equality Impact Assessment

Background • Who was involved in the Equality Impact Assessment
Neonatal guidelines group
Methodology • A brief account of how the likely effects of the policy was assessed (to include race and ethnic origin, disability, gender, culture, religion or belief, sexual orientation, age) • The data sources and any other information used • The consultation that was carried out (who, why and how?)
All staff and patient groups were considered
Key Findings • Describe the results of the assessment • Identify if there is adverse or a potentially adverse impacts for any equalities groups
No evidence of discrimination
Conclusion • Provide a summary of the overall conclusions
Guideline suitable for use
Recommendations • State recommended changes to the proposed policy as a result of the impact assessment • Where it has not been possible to amend the policy, provide the detail of any actions that have been identified • Describe the plans for reviewing the assessment
Guideline suitable for use, 3 yearly review

h. Document Checklist

To be completed (electronically) and attached to any document which guides practice when submitted to the appropriate committee for approval or ratification.

Title of the document:

Policy (document) Author:

Executive Director:

		Yes/No/ Unsure/NA	Comments
1.	**Title**		
	Is the title clear and unambiguous?	**Y**	
	Is it clear whether the document is a guideline, policy, protocol or standard?	**Y**	
2.	**Scope/Purpose**		
	Is the target population clear and unambiguous?	**Y**	
	Is the purpose of the document clear?	**Y**	
	Are the intended outcomes described?	**Y**	
	Are the statements clear and unambiguous?	**Y**	
3.	**Development Process**		
	Is there evidence of engagement with stakeholders and users?	**Y**	
	Who was engaged in a review of the document (list committees/ individuals)?		**Neonatal guidelines group**
	Has the policy template been followed (i.e. is the format correct)?	**Y**	
4.	**Evidence Base**		
	Is the type of evidence to support the document identified explicitly?	**N**	
	Are local/organisational supporting documents referenced?		
5.	**Approval**		
	Does the document identify which committee/group will approve/ratify it?	**Y**	
	If appropriate, have the joint human resources/staff side committee (or equivalent) approved the document?		
6.	**Dissemination and Implementation**		
	Is there an outline/plan to identify how this will be done?		

		Yes/No/ Unsure/NA	Comments
	Does the plan include the necessary training/support to ensure compliance?		
7.	**Process for Monitoring Compliance**		
	Are there measurable standards or KPIs to support monitoring compliance of the document?	**N**	
8.	**Review Date**		
	Is the review date identified and is this acceptable?	**Y**	
9.	**Overall Responsibility for the Document**		
	Is it clear who will be responsible for coordinating the dissemination, implementation and review of the documentation?	**Y**	
10.	**Equality Impact Assessment (EIA)**		
	Has a suitable EIA been completed?	Y	

Committee Approval (Neonatal Guidelines Committee)			
If the committee is happy to approve this document, please complete the section below, date it and return it to the Policy (document) Owner			
Name of Chair	**M. S. Edwards**	**Date**	**November 2021**
Ratification by Management Executive (if appropriate)			
If the Management Executive is happy to ratify this document, please complete the date of ratification below and advise the Policy (document) Owner			
Date: n/a			