The Registered Nurse's Role in the Prevention of Errors in the Preparation and Administration of IV Medication to Infants and Children

Background

- IV medication preparation and administration errors are considered a global problem that increases morbidity and mortality rates, length of hospital stay, adverse drug events and related cost for clinicians and the health system.
- Studies have found that errors in preparation and administration of paediatric IV medication account for between 8% and 63% of all drug errors.
- One-third of the medication errors that harm patients occurring during the nurse preparation and administration phase and children are three times more likely to suffer harm due to IV medication errors than adults.

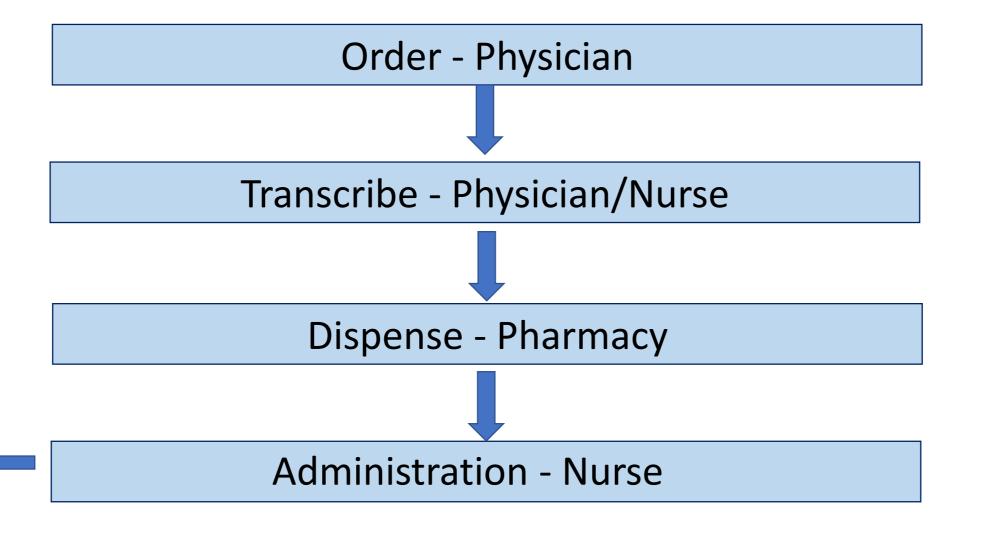
Purpose

- To develop an evidence-based practice guideline that could be used by all registered nurses working with infants and children in low resource countries, to reduce errors in IV drug preparation and administration in the care of children.
- This guideline was developed through a topic-specific scope review to identify evidence relating to each aspect of care and the identification, appraisal and contextual adaptation of existing guidelines produced by international advanced nurse practitioners and professional societies.

Flow chart for IV medication preparation and administration

This flow chart is to be used in conjunction with the full evidence-based practice guideline (available from the author) and appropriate staff education and training.

Fluid overload is always a paediatric risk. The volume of all fluids administered, including medication and flushes, should be charted to maintain accurate fluid balance records.



The 8R's of medication administration:

- 1. Right Drug
- 2. Right Dose
- 3. Right Route
- 4. Right Time
- 5. Right Patient
- 6. Right Documentation
- 7. Right Rate
- 3. Right Concentration

Pre-preparation

Reorganize nursing work process to facilitate timely IV medication preparation and administration

- Check prescription order for validity and authenticity
- Assess IV line/site for swelling or infiltration
- Resite IV line if current site is not working, swollen or painful when flushing
- Check patient information against written order
- If using pumps, ensure they are in working order and not faulty
- Aseptic technique (clean preparation area and disinfect vials)

Preparation

- Use approved British National Formulary (BNF) or essential drug dose list to verify dose
- Use appropriate technique and equipment for preparation
- Use appropriate diluent for dilution and ensure it is well mixed
- Use standard concentration for preparation
- Check manufacturers drug package
- Seek clarity from physician/ clinical pharmacist when in doubt
- Label all IV medications

Administration

- Patient identification using 8R's
- Two nurses should check the prepared medication prior to administration
- Clean and flush IV line before and after administration with 0.5ml-1ml normal saline or water for injection or depending on the length of tubing used ensuring adequate flushing with 2ml-3.5ml of normal saline or water for injection
- Check compatibility of all solutions being administered sequentially through the IV line
- Follow the institutions protocol for cleaning central lines before administration
- Administer the IV medication at the right rate
- Document the process appropriately

IF YOU ARE CONCERNED:

- If the dosage prescribed is inappropriate or unusual, contact physician/pharmacist to clarify.
- If unable to resite IV line, consult physician/pharmacist for an alternative
- Stop medication on any sign of reaction and give antidote as per protocol **IF ERRORS OCCUR:**
- Change pumps and report faulty pumps
- If wrong medication given, stop, flush the line and report
- Document the error and report all errors, near misses, and adverse reactions
- Ensure knowledge is shared, and to prevent further errors from occurring



Monitoring

- Vital signs
- Signs of reaction
- Effects of the medication





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