Nursery Nurse Drug Administration

NICU, UNIVERSITY HOSPITAL OF WALES

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Aims and Objectives

By the end of this session you will be able to:

- Understand the process of achieving competence in clinical practice
- Accurately perform drug calculations
- Demonstrate safety in checking and administering medications
- Explain where and how to access information on neonatal drugs
- Be ready to commence supervised practice to achieve competence

UHB Drug Policy in Relation to Nursery Nurses

- When administering medication to a neonate, the checking must always be performed by two qualified nurses or a qualified nurse and a nursery nurse who holds the UHB Nursery Nurse Drug Administration Certificate

Assessment Criteria

- Part A
  - Drug calculation test that must passed successfully to proceed to Part B
- Part B
  - Completion of competency document, including 5 assessments of drug administration

Examples of Drugs

- Abidec
- Folic Acic
- Sytron
- Phosphate
- Sodium
- Paracetamol
- Trimethoprim
- Caffeine Citrate
- Ranitidine
- Lanzoprazole
- Amoxicillin
- Flucloxicillin

Routes of Administration

- Oral
- Topical
- Optical

Drug Calculations

- Principles
- Units
- Strengths
- Calculating dosages

Principles

- Keep to a method you understand
- Have some idea where your answer should be so you can ask yourself:

  Is my answer reasonable?
- **IF IN ANY DOUBT –STOP AND GET HELP**

Units

- **Always work in the same units !!!**
- Avoid decimal points
- Do not use abbreviations –write micrograms and nanograms in FULL to avoid confusing yourself

Unit Conversions

- **1 kilogram = 1,000 grams**
- **1 gram = 1,000 milligrams**
- **1 milligram = 1,000 micrograms**
- **1 microgram = 1,000 nanograms**
- **1 litre = 1,000 milliliters**

Converting From One Unit to Another

- To convert from a larger unit to a smaller unit, multiply by 1000 or move the decimal point three places to the right

- To convert from a smaller unit to a larger unit, divide by 1000 or move the decimal point three places to the left

Converting a Larger Unit to a Smaller Unit

- Decimal point moves 3 places to the RIGHT

- 0.1 2 5 mg = 1 2 5 microgram

Converting a Smaller Unit to a Larger Unit

- Decimal point moves 3 places to the LEFT

- 5 .0 mg = 5000 micrograms

Units and Equivalences

- Convert 0.25 mg into micrograms
- Convert 600 micrograms to mg

Answers

- 0.25 × 1000 or move decimal point three places to the RIGHT

  = **250 micrograms**

- 600 ÷ 1000 or move the decimal point three places to the LEFT

  = **0.6 mg**

Calculating Dose as Volume

$$\frac{\text{What you WANT}}{\text{What you have GOT}} \times \text{what it is IN}$$

= the volume you want to administer

Question

- You have Folic Acid oral solution 2.5mgs in 5mls
- How will you calculate a 100mcg dose?

Answer

- Convert mgs and mcgs to same unit
  - 2.5mgs = 2500mcgs or 100mcgs = 0.1mgs
- Calculate volume you want to administer
  - 100 ÷ 2500 x 5 or 0.1 ÷ 2.5 x 5
  - = 0.2 mls

Calculation Tips

- Keep units the same
- Where possible use whole numbers rather than fractions
- If appropriate, round your final answer to a practical level of accuracy
- 5 or more rounds up, 4 or below rounds down

Dosages Based on Body Parameters

- Calculated on a body weight basis (mg/Kg)

- WEIGHT
- Dose = 3 mg/kg Weight = 2.8 kg
- 3 mg/kg = 3 x 2.8 = 8.4 mg
- ***Total dose required = dose/kg x weight (kg)***

Accountability

- All administrators are individually accountable for their actions and inactions, during their practice of administering medicines
- It is a requirement for a second independent whole process check
- In the event of avoidable harm arising out of an error during the drug administration process or as a result of inappropriate delay or omission of an administration, both administrators will be held to account for their actions during the whole process

Preparing Yourself and Your Area

Yourself – what do you need to do before?

- Locate equipment, drug chart, medication, 2nd checker
- Wash hands and apply alcohol gel

The Area

- Away from patients
- Not in a noisy environment or thoroughfare
- Avoid distractions

Pharmacology

- Each individual administrator must know:
  - The therapeutic use of the medicine to be administered
  - It's normal dose, side effects, precautions, contra-indications and monitoring requirements
  - If the checker is not aware of this information, both administrators must be able to independently locate and check the information before administration
  - Sources include BNF-C and Medusa
  - Pharmacist also available for advice

- http://medusa.wales.nhs.uk

Checking the Prescription

- Check the allergy status on the front of the prescription
- Check the prescription is
  - Written clearly and unambiguous
  - All elements of the prescription are filled out
  - Signed by the prescriber
- 5 Rights
  - Right DATE
  - Right TIME
  - Right PATIENT
  - Right DRUG
  - Right DOSE

Abbreviations

- OD = Once daily
- BD = Twice daily
- TDS = Three times a day
- QDS = Four times a day

Procedure

- Establish the identity of the patient in accordance with the UHB Patient Identification Policy
- Check the expiry date of the medicine
- Ensure that the patient takes the medication. In order to exercise accountability, the persons administering medicines must either witness their ingestion/application or delegate this task to a suitably competent parent/carer. It is the responsibility of the nursery nurse/nurse administering medicines to ensure the task has been completed and only then must they annotate the chart
- Make a clear and accurate recording of own initials on medicines administration chart once you are sure all medicines administered have been taken/applied. Medicines intentionally withheld or not given must be annotated with the appropriate code and where necessary as an entry into the patient's notes

If an Error Occurs

If an error occurs you must:

- Inform the doctor on duty, making sure the baby is safe and if appropriate discontinue the medication or perform any action needed
- Inform the senior nurse/ward manager on duty that you have made or found an error
- An appropriate person should inform the parents
- An appropriate person should complete a datex incident report online

Questions?