

**Royal Children's Hospital Generic Oral and Injectable Medication Learning
Package 2009. (Part A)
(Medication endorsed Registered Nurses Division 2)**

Name: _____
Unit: _____
Contact details: _____

The aim of this package is to enable nursing staff at the Royal Children's Hospital (RCH), Melbourne to:

- become familiar with the hospital medication policy and resources
- develop paediatric medication administration knowledge and skills
- ensure the safe administration of medications to all infants, children and adolescents
- identify areas for further development.

All nurses (this includes registered division 2 nurses who are medication endorsed including intravenous drug administration) administering medications at the Royal Children's Hospital (RCH) are expected to complete:

Part A – a generic package for all nursing staff – multiple choice will be available on line (this package)

Part B – involves a unit specific package.

Registered Division 2 nurses who are not endorsed for intravenous medication administration will need to complete the alternate package which does **NOT** include intravenous medication administration questions: 'Royal Children's Hospital Generic Oral and Injectable Medication Learning Package'

All nursing staff; fulltime, part time, casual and rotating are expected to complete the package upon commencement of employment with RCH. For units that do not have unit specific medication competency.

The role of the registered nurse is a privileged one. At the RCH we have a significant responsibility to protect the safety and well being of all children and families. Medication administration is an important aspect of this.

- Research suggests that medication administration is responsible for 34% of medication errors (Bates et al)
- In 2006-07 - 3 patients died from medication related errors in Victoria (Reported through Sentinel Event Program)
- Most medication administration related errors at RCH are:
 - Wrong dose
 - Omitted dose.

The checking and administering of medications is essentially a simple process and the standard required is to ensure the

- **right child**
- receives the **right medication**
- the **right dose**
- at the **right time**

- by the **right route**
- and **for the right to refuse.**

Competency is based on the Nurses Board of Victoria Scope of Practice and the RCH Medication Procedure documents.

Resources you may find helpful: are these up to date?

- Medication policy (http://www.rch.org.au/policy_rch/index.cfm?doc_id=6570)
- Paediatric pharmacopoeia (available on all clinical units) (<http://www.rch.org.au/pharmacopoeia>)
- Paediatric Injectable Guidelines (http://www.rch.org.au/pharmacy/drugs/index.cfm?doc_id=3527) (<http://www.rch.org.au/pharmacy/intranet/PIG3.pdf>)
- MIMs Online (<https://www.mimsonline.com.au/Search/Search.aspx>)
- Clinical practice guidelines (http://www.rch.org.au/clinicalguide/index.cfm?doc_id=5033)
- Nursing and medical colleagues
- MIMS Online
- After Hours Drug lists
- Medication Policy
- Drug Doses –Frank Shann
- Pharmacists
- Your own thinking and commonsense.

If you follow the checking process in the medication policy the risk of an error will be significantly reduced and you can be confident you are protecting children in your care. Be an advocate and speak up if you observe practice you consider not being in line with hospital policy or in the best interest of the child. **If in doubt ask before you act!**

Purpose

1. To foster self directed learning to promote personal accountability and responsibility in the safe administration of medications to infants, children and adolescents.
2. To enable the nurse to identify further learning needs related to medication administration.

The aims of the medication package are to:

- promote best practice in paediatric medication administration.
- promote the availability of the hospital medication policy and standard expected of nurses
- assist the learner to identify strengths and areas of development in medication administration
- minimise medication errors at RCH by promoting safe administration practices based on a sound knowledge of medications/fluids and policy
- promote self accountability
- promote the application of knowledge and skills related to medication administration to deliver medications to children safely and effectively 100% of the time.

Expected outcomes

At the completion of this package the Registered Nurse should be able to self-assess competency and improve his/her ability to:

- assume personal professional responsibility for the safe administration of medications at RCH
- advocate for best practice in paediatric medication administration
- discuss the safe administration of medication at RCH using the medication policy as the standard of practice
- locate and use the relevant Royal Children's Hospital medication resources to cross check the medication, the dose, frequency and recommended route for all medications administered
- administer medications safely 100% of the time adhering to RCH medication policy
- read, interpret and discuss prescribed medications on Medication Chart
- identify learning needs in relation to medication administration.

It is expected that all Registered Nurses achieve 100% to be deemed competent in the generic medication assessment.

You will receive feedback on your medication assessment from your assessor.

There will be an opportunity to provide correct responses for any questions that have been answered incorrectly to achieve 100%.

NB: Please ensure that your results are entered into Trendcare.

Each question has only one correct answer therefore please tick one box that you believe is the correct answer. All questions must be answered.

Conversions

1) **1 gram = how many milligrams?**

- a) 10
- b) 100
- c) 10,000
- d) 1,000

2) **1 milligram = how many micrograms?**

- a) 10
- b) 10,000
- c) 1,000
- d) 100

3) **1 microgram = how many milligrams?**

- a) 0.001
- b) 1.00
- c) 0.01
- d) 0.10

4) **500mg = how many grams?**

- a) 5.0
- b) 0.5
- c) 50
- d) 500

5) **400 micrograms = how many milligrams?**

- a) 400
- b) 40
- c) 4
- d) 0.4

Medication policy questions

- 6) **According to the RCH hospital policy what are the six rights?**
- a) parent, dose, drug, reason, time, route
 - b) patient, dose, drug, time, route, right to refuse
 - c) patient, dose, drug, time, route, clinical reason
 - d) patient, dose, drug, time, reason, parent
- 7) **A Registered Nurse is**
- a) responsible for prescribing some paediatric medications
 - b) required to check ALL medications with another RN Division 1
 - c) responsible for the correct and safe administration of medications
 - d) responsible for supplying requisitioned and imprest medications
- 8) **Telephone orders are:**
- a) Not acceptable under any circumstances at the Royal Children's Hospital
 - b) Acceptable if signed and checked by two Division 1, RN's or pharmacist
 - c) To be signed by the doctor or pharmacist within 12 hours of telephone call
 - d) Able to be accepted and signed by one Division 1 RN and any Division 2 RN
- 9) **A medication is written up at a time when pharmacy is closed. There is no stock on your ward and you do not have a list of what drugs are stored on other wards. Select the order you would use the resources below in order of priority to get the required medication.**
- 1. Consult after hours drug list
 - 2. Notify after hours Nurse Supervisor
 - 3. Notify the on call pharmacist
 - 4. Borrow from another ward
- Select the best combination
- a) 1, 2, 3, 4
 - b) 2, 1, 4, 3
 - c) 3, 4, 1, 2
 - d) 1, 4, 2, 3

Commonly used medications

Suggested resource: Paediatric Pharmacopoeia – 13th edition (all clinical units)
Paediatric Injectable Guidelines 3rd Edition.

Paracetamol

- 10) Paracetamol has been prescribed for pain for Johnny who is four years old and weighs 20 kg. Paracetamol comes in 240mg/5ml suspension. What is the recommended dose you would expect to be prescribed?
- a) 20 mg/kg/dose 4-6 hourly
 - b) 15 mg/kg/dose 6-8 hourly
 - c) 15 mg/kg/dose 4-6 hourly
 - d) 20 mg/kg/dose 6-8 hourly
- 11) How many mls of paracetamol (paracetamol comes in 240mg/5 ml suspension) will be given if Johnny from question 10 is prescribed 300mg?
- a) 5.75ml
 - b) 6ml
 - c) 6.25ml
 - d) 6.5
- 12) The total daily maximum dose within RCH Medication Guidelines for oral/rectal paracetamol in neonates, infants and children is:
- a) 15 mg/kg/24 hours
 - b) 60 mg/kg/24 hours
 - c) 90 mg/kg/24 hours
 - d) 4 g/kg/24 hours
- 13) You are not a competent sedation nurse and are asked to give ORAL sedation for a procedure. Which of the following is the correct process to give this medication?
- a) You must have a competent sedation staff member and a valid oral sedation order in the medication chart
 - b) You require an accredited sedation staff member to get informed consent prior to administration of medication
 - c) The oral sedation medication is prescribed so there is no need for a Record of Sedation to be completed
 - d) Assessment and documentation is only required for patients that are fasting for intravenous sedation
- 14) What is the antidote for morphine?
- a) Protamine
 - b) Naloxone
 - c) Methylene blue
 - d) Charcoal

For questions 15 to 30 please show all calculations in the space provided

- 15) **An eight year old child with muscle spasms who weighs 22kg is ordered 7mg of diazepam. Ward stock is a bottle of diazepam, 1mg/1ml. What volume of diazepam would you give this child?**
- a) 12mls
 - b) 5mls
 - c) 7mls
 - d) 17.5mls
- 16) **An eight year old boy who weighs 24kgs is ordered 240mg of paracetamol in the form of an elixir. 'Children's Panadol 1 – 5 yrs Elixir' is on hand and each ml contains 50mg of paracetamol. What volume of the elixir must be administered?**
- a) 7.5mls
 - b) 4.8mls
 - c) 12mls
 - d) 8.5mls
- 17) **Calculate the volume of a pre-medication dose of 10mg of morphine to be administered to a child who weighs 30kgs when the stock ampoule contains 5mg/ml.**
- a) 0.7mls
 - b) 2.0mls
 - c) 0.8mls
 - d) 1.0mls
- 18) **A small child who weighs 19kg is prescribed cephalothin. The recommended dose is 60mg/1kg per day up to four doses daily. What should the size of a single dose be?**
- a) 250mgs
 - b) 300mgs
 - c) 285mgs
 - d) 305mgs
- 19) **The same child also has an upper respiratory tract secondary infection so is ordered phenoxymethylpenicillin 150mg qid. 'Abbecillin' is available in two strengths 125mg/5ml and 250mg/5ml. What would you give this child?**
- a) 6mls
 - b) 4mls
 - c) 8 mls
 - d) 5mls
- 20) **A five year old is ordered promethazine 10mg half an hour before bedtime as a sedative. The children's ward has 'Phenergan Elixir, 5mg/5ml in imprest. What volume of the Phenergan elixir would you give this child?**
- a) 10mls
 - b) 12mls
 - c) 12.5mls

- d) 8 mls
- 21) **A paediatric patient is to be given a 70mg dose of phenytoin as an oral suspension. 'Dilantin Paediatric Suspension' contains 30mg of phenytoin in 5ml. How many mls of this suspension must be administered?**
- a) 12mls
b) 10mls
c) 8 mls
d) 9mls
- 22) **A child with a urinary infection is ordered flucloxacillin 100mg orally 6/24 for one week. Available stock is 1gm/3ml. Calculate the amount to be given per dose?**
- a) 0.5mls
b) 0.3mls
c) 0.2mls
d) 0.4mls
- 23) **A three year old with asthma is ordered 15mg of prednisolone daily. Prednisolone mixture contains 5mg/ml. What volume of mixture would you give this child daily?**
- a) 1ml
b) 2mls
c) 3mls
d) 4mls
- 24) **A child is prescribed erythromycin qid. The recommended dosage is 40mg/kg/day from Frank Shann. If the child's weight is 15kg, calculate the amount of a single dose.**
- a) 100mg
b) 125mcg
c) 150mg
d) 130mg
- 25) **A four year old epileptic child who has difficulty swallowing tablets is ordered carbamazepine 300mg bd. 'Tegretol liquid' containing 2% w/v(=2g/100ml) of carbamazepine is available in the children's ward. How many mls of this 'Tegretol Liquid' would you supply to give this required dose?**
- a) 10mls
b) 15mls
c) 20mls
d) 17mls

- 26) A six year old boy with juvenile rheumatoid arthritis is ordered naproxen 12 hourly. The dose for naproxen for a child this age is 10mg/kg/day in two doses at 12 hourly intervals. The boy weighs 20kg. There is an aqueous suspension of 'Naprosyn' which contains 25mg/ml of naproxen. What volume gives the required 12 hourly dose?
- a) 5mls
 - b) 6mls
 - c) 3mls
 - d) 4mls
- 27) A child is to be given amoxicillin. The recommended dosage is 80mg/kg/day four doses per day. Recommended dose actually 10-25mg/kg/dose. Calculate the size of a single dose if the child weighs 27kg?
- a) 500mg/dose
 - b) 540mg/dose
 - c) 520mg/dose
 - d) 510mg/dose
- 28) A young patient is ordered 300mg penicillin. The suspension on hand has a strength of 125mg/5mls. How much suspension should be given?
- a) 10mg/dose
 - b) 15mg/dose
 - c) 12mg/dose
 - d) 17mg/dose
- 29) A child is to be given 175microgram of digoxin, orally. Paediatric mixture contains 50microgram/ml. Calculate the required volume.
- a) 2.5mls
 - b) 3.5mls
 - c) 4.0mls
 - d) 4.5mls
- 30) A child is prescribed 180mg flucloxacillin. On hand is stock containing 250mg per 5ml. How much should be given?
- a) 6mls
 - b) 4mls
 - c) 3mls
 - d) 8mls