



**Royal Children's Hospital Generic Medication Learning Package
2010 (Part A)**

Name: _____
Unit: _____
Contact details: _____

The aim of this package is to enable nursing staff at the Royal Children's Hospital, 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 - three 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 document.

Resources you may find helpful:

- 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 result has been entered into Trendcare.

Royal Children's Hospital Generic Medication Assessment.

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 6 rights?**
- a) patient, 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, RNs or a 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

Commonly used medications

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

Paracetamol

- 9) Paracetamol has been prescribed for pain for Johnny who is four (4) years old and weighs 20kg. 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
- 10) How many mls of paracetamol (paracetamol comes in 240mg/5ml suspension) will be given if Johnny from question 10 is prescribed 300mg?
- a) 5.75ml
 - b) 6ml
 - c) 6.25ml
 - d) 6.5
- 11) 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

Heparin

- 12) Brian, an infant weighing 7kg is on a Heparin infusion (3500 units made to a total volume of 50mls with 0.9% sodium chloride) running at 1ml/hr. What dose is he receiving each hour?
- a) 10 units/kg/hr
 - b) 20 units/kg/hr
 - c) 30 units/kg/hr
 - d) 40 units/kg/hr

Benzylpenicillin

- 13) Joey is 9kg and has a severe infection. He is prescribed IV Benzylpenicillin 540mg 4 hourly. Is this the recommended dose?
- a) Yes
 - b) No
- 14) What is the powder volume of Benzylpenicillin (600mg vial)?
- a) 0.2ml
 - b) 0.4ml
 - c) 0.6ml
 - d) 1ml
- 15) How much Water for Injection would you add to a 600mg vial to get a mixture of 600mg in 6mls?
- a) 5.4mls
 - b) 5.6mls
 - c) 5.8mls
 - d) 6mls

- 16) **Once you have reconstituted the solution (based on question 15) how much would you draw up to give Joey?**
- a) 5mls
 - b) 5.4mls
 - c) 6mls
 - d) 10mls
- 17) **The infant you are caring for will be having an IV cannula inserted, you decide to use Sucrose 33% to minimise pain and distress. The Registrar asks if this requires a Doctor's order, what is your response:**
- a) Sucrose is sugar water and does not require a prescription or documentation and therefore falls under the nurse initiated guidelines
 - b) Sucrose can be initiated by division 1 or 2 registered nurse without a prescription and must be documented on the medication chart
 - c) Sucrose solution can be administered by a nurse, but it does not require documentation in any chart
 - d) Sucrose must be prescribed by a doctor on the medication chart before it can be administered for a procedure
- 18) **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

Morphine infusion

- 19) **A child who weighs 16kg has been prescribed a morphine infusion on the Opioid infusion attachment. The morphine infusion has been constituted with 8 milligrams of morphine in a syringe to a total of 50ml. The infusion is running at 2ml/hr. What dose in micrograms/kg/hr is being administered?**
- a) 10 micrograms/kg/hr
 - b) 20 micrograms/kg/hr
 - c) 30 micrograms/kg/hr
 - d) 40 micrograms/kg/hr
- 20) **What is the antidote for morphine?**
- a) Protamine
 - b) Naloxone
 - c) Methylene blue
 - d) Charcoal

Potassium Chloride

- 21) **Which of the following drugs is compatible with potassium chloride 20 mmol/L?**
- a) Amoxicillin
 - b) Rifampicin
 - c) Ketamine
 - d) Adrenaline

Chemotherapy

- 22) Robert has been prescribed IV Vincristine. Who can administer this?
- a) All division 1 or 2 nurses who work in the Cancer Centre
 - b) Division 1 registered nurses who work in the Cancer Centre
 - c) Division 2 registered nurses who work in the Cancer Centre
 - d) Registered nurses who are fully accredited to give chemotherapy

Intravenous fluids/Maintenance fluids

- 23) A child weighs 9kg and is prescribed maintenance fluids. How many mls/day (24 hours) will this be?
- a) 450ml
 - b) 648ml
 - c) 900ml
 - d) 1080ml
- 24) Having worked out the daily requirement for the above 9kg child, how many mls per hour would you expect the IV rate to be set?
- a) 18ml
 - b) 27ml
 - c) 36ml
 - d) 45ml
- 25) A child weighs 15kg and is prescribed maintenance fluids. How many mls/day (24 hours) will this be?
- a) 1050ml
 - b) 1250ml
 - c) 1800ml
 - d) 1500ml
- 26) Having worked out the daily requirement for the above 15kg child, how many mls per hour would you expect the IV rate to be set?
- a) 50ml
 - b) 90ml
 - c) 60ml
 - d) 75ml
- 27) You are caring for a 5 day old neonate who is nil by mouth, for this child what dextrose content is most appropriate for the IV fluids?
- a) 4%
 - b) 5%
 - c) 10%
 - d) 12.5%
- 28) The recommended fluid to be infused as maintenance for well children with normal hydration is:
- a) 0.45% NaCl with 5% Glucose + 20mmol KCl / litre
 - b) 0.9% NaCl
 - c) 0.9% NaCl with 5% Glucose
 - d) 0.45% NaCl with 5% Glucose
- 29) Which intravenous fluid is NOT the appropriate initial fluid for unwell children?
- a) 0.45% NaCl with 5% Glucose + 20mmol KCl / litre
 - b) 0.18% NaCl with 4% glucose with KCl 20mmol/L.
 - c) 0.9% NaCl
 - d) 0.45% NaCl with 5% Glucose