Government
of South Australia

Children, Youth and
Women's Health Service

Women's
& Children's
Hospital

MEDICATION SAFETY STRATEGIES for CHILDREN

Kingsley Coulthard
Director Pharmacy
Women's & Children's Hospital

May 2009

- easily accessible dosing resources

Government of South Australia

Children, Youth and Women's Health Service

Women's & Children's Hospital

Children, Youth and Women's Health Service Intranet

Home | Our organisation | Work station | Staff matters | Learning more | Who's where | Search go

Home / Learning More / Drug Information / Drug Information Overview

Drug Information Resources

Adverse Drug Reaction Reporting Procedure (Clinical Governance area)	
Antimicrobial Agents Requiring Infectious Diseases Approval (Clinical Governance area)	
Australian Immunisation Handbook (9th Edition - 2008) (PDF 2.3mb)	
Australian Injectable Drugs Handbook (3.2.09 currently unavailable- trial only)	username : hcnguest119 password : la33mely
Australian Medicines Handbook	
Australian Prescriptions Products Guide	
British National Formulary for Children (BNFC)	username : library@cywhs.sa.gov.au password : children
Drugs and Therapeutics Committee Guidelines	
Martindale: The Complete Drug Reference	username : library@cywhs.sa.gov.au password : children
MIMS Online	
Neonatal Medication Manual	
Paediatric Intravenous Guidelines	
Paediatric Pharmacopoeia (preferred dosing guide) Please note that where DTC guidelines exist, they will take precedence over RCH dosage recommendations.	username : wch password : doses12
Schedule of Pharmaceutical Benefits	
eTherapeutics Guidelines (eTG)	
Therapeutic Drug Monitoring	

- Bookings - Education & Training
- Education & Training Services
- Calendar
- All Staff
- Medical Education
- Nursing and Midwifery Education
- Placements
- Forums
- Fire Training Dates
- Conferences, Seminars and Study
- Library
- Research
- **Drug Information**
  - **Drug Information Overview**
  - Drug Calculations

Toolbox — Tools | Our Sites

- Emergency Codes (WCH)
- Forms
- Drug Information

- easily accessible dosing resources
- abbreviations

Government of South Australia

Children, Youth and Women's Health Service

Women's & Children's Hospital

✓ USE THESE

Latin abbreviation	English meaning
bd	twice a day
tds/tid	three times a day
qds/qid	four times a day
prn	when required
stat	immediately
4hourly, 6hourly etc	every four hours etc.
nocte	at night
mane	in the morning

Safe prescribing tips

1. When practical write directions in English. This helps avoid confusion e.g. 'once daily' rather than 'od'.
2. Prescribe generically rather than by brand name.
3. Always check for allergies, contraindications and interactions, and record on the Clinical Summary/Alert sheet in Medical Record
4. Always write out drug doses in full – badly written abbreviations for 'milligrams', 'micrograms', 'nanograms' and 'units' are easily confused.
5. Always write a leading zero before a decimal point, e.g. 0.6 milligrams rather than .6 milligrams.
6. Write LEGIBLY including your name and pager.
7. Completely REWRITE orders that need change in e.g. dose, frequency, route.
8. As much as possible always prescribe using the approved RCH Pharmacopoeia and the IV Guidelines (both on Intranet) or other authoritative paediatric medication reference.

Adelaide Women's & Children's Hospital, Feb 2008

✗ DO NOT USE THESE

Don't use	What it is meant to be	Reason why it should not be used	Instead use
od	once daily	confused with qid or oral daily	daily/mane nocte
qd	every day	confused with qid or od	(as above)
@	e.g. IV fluids @30 ml/hr	@ can look like a 2	omit
qhs	at bed time	can be misinterpreted as 4 times a day	bedtime or nocte
q4h, q6h	every 4 hours etc	can be mistaken	4 hourly, 6 hourly
U	units	can be mistaken for a zero, i.e. result in a 10 x overdose	units
IU	international unit	can be mistaken for IV or the I can be mistaken for a 1 (one) e.g. 3IU looks like 31 U	units
mcg	microgram	can be mistaken for mg	microgram
IN	intranasal	can be mistaken for IV or IM	intranasal or nasal

Safe prescribing tips

1. Never abbreviate drug names as they can easily be misinterpreted e.g. AZT could be azathioprine or zidovudine.
2. Never write a trailing "0" after a whole number, e.g. 8 milligrams not 8.0 milligrams.
3. Do not leave any fields/boxes on the medication order blank, including allergy (use NKA)

DANGEROUS ABBREVIATIONS
NOT TO BE USED

"U" for units
"od or qd" for once daily
"µg" for microgram

- easily accessible dosing resources
- abbreviations
- bar coding

- easily accessible dosing resources
- abbreviations
- bar coding
- alert sheet

Government of South Australia

Children, Youth and Women's Health Service

Women's & Children's Hospital

Government of South Australia

Children, Youth and Women's Health Service

ALERT - CLINICAL

PATIENT LABEL

UR Number: ....

Surname: ....

Given Names: ....

D.O.B. .... Sex: ....

The Health Care Worker (this includes nurses, midwives, doctors, allied health workers and pharmacists) must record the specific problem, note the date and details of the event that precipitated the alert and whether the problem was **proven** (P) or **unproven** (U). All entries should be dated and signed.
An alert is **CANCELLED** by drawing a **single** horizontal line through the alert details and recording the signature and date.
Administrative Alerts (Information Constraints, Merged UR Numbers and Record Retention Period) are to be recorded on Alert - Administration (MR 1a).

DRUG, FOOD, TRANSFUSION, MEDICAL, ANAESTHETIC, LATEX, OTHER ALERTS, ETC:

☐ **SPECIAL MEDICAL NEEDS FILE** .... **(LOCATION)**

AGENT	EFFECT (*)	DATE OF EVENT	P/U	HEALTH CARE WORKER SIGNATURE	DATE OF REPORTING	CANCELLED	
						SIGNATURE	DATE
				PRINT NAME SIGN			
				PRINT NAME SIGN			
				PRINT NAME SIGN			
				PRINT NAME SIGN			
				PRINT NAME SIGN			

INFECTION RISK ALERTS

AGENT	ACTION (Infection Control to complete)	HEALTH CARE WORKER SIGNATURE	DATE	CANCELLED	
				SIGNATURE	DATE
		PRINT NAME SIGN			
		PRINT NAME SIGN			
		PRINT NAME SIGN			

CLINICAL TRIALS

STUDY TITLE	CHIEF INVESTIGATOR	HEALTH CARE WORKER SIGNATURE	DATE ENROLLED	DATE WITHDRAWN OR COMPLETED	
				SIGNATURE	DATE
		PRINT NAME SIGN			
		PRINT NAME SIGN			
		PRINT NAME SIGN			

* CONSIDER A MEDIC ALERT ENROLMENT.

PTO

MarkIT Media #106b Form 32003010

ALERTS

ALERT - CLINICAL MR 1

Government of South Australia

Children, Youth and Women's Health Service

Women's & Children's Hospital

- easily accessible dosing resources
- abbreviations
- bar coding
- alert sheet
- specific drug charts – PCA, opioid infusions

- easily accessible dosing resources
- abbreviations
- bar coding
- alert sheet
- specific drug charts – PCA, opioid infusions
- high risk medicines

- easily accessible dosing resources
- abbreviations
- bar coding
- alert sheet
- specific drug charts – PCA, opioid infusions
- high risk medicines
- IV infusions – burettes, infusion software, paediatric guidelines + dose

- easily accessible dosing resources
- abbreviations
- bar coding
- alert sheet
- specific drug charts – PCA, opioid infusions
- high risk medicines
- IV infusions – burettes, infusion softward, paediatric guidelines
- Paediatric NIMC

Government of South Australia
Children, Youth and Women's Health Service

Women's & Children's Hospital

- easily accessible dosing resources
- abbreviations
- bar coding
- alert sheet
- specific drug charts – PCA, opioid infusions
- high risk medicines
- IV infusions – burettes, infusion software, paediatric guidelines
- Paediatric NIMC
- medication safety officer

AHMAC Paediatric Pharmaceutical Working Group

- Report endorsed October 2005
- 21 Recommendations improve QUM in children
- national dosing resource
- Paediatric Medicines Advisory Group
  - child friendly products
  - equitable access

Implementing the Strategies

- multi-disciplinary ownership
- Executive sponsorship
- communication
  - orientation - ? mandatory packages
  - one on one – ward pharmacists, MSO
  - newsletter
  - examples of **our** incidents
- audit
- immediate investigation of incidents
- alerts

Government of South Australia

Children, Youth and Women's Health Service

Women's & Children's Hospital

Government of South Australia

SA Health

Women's & Children's Hospital

CLINICAL ALERT

Midazolam Injection
5mg/5ml & 15mg/3ml

Heparinised Saline Injection
50 IU (units) in 5ml

Look-a-like Ampoules

Midazolam Injection 5mg/5ml & 15mg/3ml & Heparinised Saline Injection 50 IU (units) in 5ml

Pharmacy is trying to source another brand of Midazolam to avoid confusion, in the interim:

Please be aware these drug ampoules look similar and the need to check drug name and concentration before administration is vital.

There is a greater chance for error due to similar packaging.

Government of South Australia

Children, Youth and Women's Health Service

Women's & Children's Hospital

Government of South Australia

SA Health

Women's & Children's Hospital

CLINICAL ALERT

Tramadol Oral Drops

Recommended dose for children 1-2mg per kg, orally, 4 - 6 hourly

Tramadol Oral Drops 100mg/1mL

CAUTION there is an increased risk of overdose in children due to the use of concentrated drops.

- There should never be a need to give more than 1mL - 100mg (Adult dose).
- Each dose requires 2 nurses to check the correct dose has been prescribed and correct amount to be given before administration.
- Current recommendations are to measure dose and administer to patients with an oral syringe.

Government of South Australia

Children, Youth and Women's Health Service

Women's & Children's Hospital

NHS
National Patient Safety Agency

Patient safety alert

19

Alert

28 March 2007

Immediate action	☐
Action	☑
Update	☐
Information request	☐

Ref: NPSA/2007/19

Promoting safer measurement and administration of liquid medicines via oral and other enteral routes

The National Patient Safety Agency (NPSA) is advising healthcare organisations on how the design of medical devices and the methods used to measure and administer oral liquid medicines* can improve patient safety.

A review of data from the NPSA's National Reporting and Learning System (NRLS) shows 33 patient safety incidents involving intravenous administration of oral liquid medicines between 1 January 2005 and 31 May 2006.

Incorrect intravenous administration of oral liquid medicines has resulted in three reported deaths between 2001 and 2004,[1-3] and there are reports of four incidents of harm or near misses between 1997 and 2004.[4-7] This risk has been recognised in the Department of Health report *Building a safer NHS for patients: Improving medication safety*[8] and in other publications worldwide.[9-13]

Action for the NHS and the independent sector

1 Design, supply and use of oral/enteral syringes

- only use labelled oral/enteral syringes that cannot be connected to intravenous catheters or ports to measure and administer oral liquid medicines;
- do not use intravenous syringes to measure and administer oral liquid medicines;
- make sure stocks of oral/enteral syringes are available in all clinical areas that may need to measure and administer oral liquid medicines in a syringe;
- when patients or carers need to administer oral liquid medicines with a syringe, supply them with oral or enteral syringes.

2 Design, supply and use of enteral feeding systems

- enteral feeding systems should not contain ports that can be connected to intravenous syringes or that have end connectors that can be connected to intravenous or other parenteral lines;
- enteral feeding systems should be labelled to indicate the route of administration;
- three-way taps and syringe tip adaptors should not be used in enteral feeding systems because connection design safeguards can be bypassed.

* The term 'oral liquid medicine' will be used throughout the document to mean liquid medicine, including soluble tablets once dissolved and feeds or flushes to be administered by oral and other enteral routes, including rectal administration. Flushes include water, sodium chloride 0.9% and air.

For response by:
- All NHS and independent sector organisations in England and Wales

For action by:
- The chief pharmacist/pharmaceutical advisor should lead the response to this alert, supported by the chief executive, medical director, nursing director and clinical governance lead/risk manager

The following groups must also be involved in implementation:
- Clinical governance leads and risk managers
- Medical staff
- Nursing staff
- Nutritional nurse specialists
- Speech and language therapists, physiotherapists, dieticians
- General practitioners
- Patient advice and liaison service staff in England
- Procurement managers

The NPSA has informed:
- Chief executives of acute trusts, primary care organisations, ambulance trusts, mental health trusts and local health boards in England and Wales
- Chief executives/regional directors and clinical governance leads of strategic health authorities (England) and regional offices (Wales)
- Healthcare Commission
- Healthcare Inspectorate Wales
- Business Services Centre (Wales)
- Medicines and Healthcare products Regulatory Agency
- NHS Purchasing and Supply Agency
- Welsh Health Supplies
- Prescription Pricing Authority
- Royal colleges and societies
- British Dietetic Association
- NHS Direct
- Relevant patient organisations and community health councils in Wales
- Independent Healthcare Forum

Government of South Australia

Children, Youth and Women's Health Service

Women's & Children's Hospital

NHS

National Patient Safety Agency

Patient safety alert 09

Alert

18 August 2005

Immediate action	☑
Action	☐
Update	☐
Information request	☐

Reducing the harm caused by misplaced naso and orogastric feeding tubes in babies under the care of neonatal units

Gastric tube feeding, both naso and orogastric, is used extensively in neonatal units. Thousands of tubes are inserted daily without incident. However, there is a small risk that the tube can become misplaced into the lungs during insertion, or move out of the stomach at a later stage. Studies have shown that testing methods to check the placement of nasogastric feeding tubes in adults and children can be inaccurate.[1-4] A recent alert (NPSA Patient Safety Alert 05) issued advice on which methods should and should not be used in adults and children.

This is additional advice that is specific to neonates as they differ physiologically from adults and children in terms of gastric pH. The British Association of Perinatal Medicine has worked with the NPSA on developing this advice, and the Neonatal Nurses Association and the Royal College of Paediatrics and Child Health have also agreed it.

Action for the NHS

NHS acute trusts, primary care organisations and local health boards in England and Wales should take the following steps immediately:

1. Give staff, and carers of babies in the community, the following information on correct and incorrect testing methods (see **www.npsa.nhs.uk/advice)**. We recommend:
   - neonatal units and carers change to using pH indicator strips or paper, following competency based training and education, by 1 January 2006;
   - radiography should NOT be used 'routinely' but can be used if the baby is being x-rayed for another reason. Tubes with markings should be used for all babies to enable accurate measurement of depth and length and the position of the tube documented;
   - DO NOT use the auscultation method ('whoosh' test) to determine tube position;
   - DO NOT interpret the absence of respiratory distress as an indicator of correct positioning;
   - DO NOT test correct positioning by monitoring for bubbling at the end of the tube;
   - DO NOT use the appearance of feeding tube aspirate as a primary method to rule out misplacement.
2. Carry out individual risk assessment prior to gastric tube feeding.
3. Review and agree local action required.

For response by:
- NHS acute trusts (including foundation trusts), primary care organisations and local health boards in England and Wales

For action by:
- Directors of Nursing in England and Wales

We recommend you also inform:
- Neonatal nursing staff (including community nurses)
- Midwives
- Neonatologists
- Paediatricians
- Medical staff (including radiologists)
- Medical directors
- Clinical governance leads and risk managers
- Nutritional nurse specialists
- Speech and language therapists, physiotherapists, dieticians
- Chief pharmacists/pharmaceutical advisers
- Patient advice/liaison service staff in England
- Procurement managers

The NPSA has informed:
- Chief executives of acute trusts, primary care organisations and local health boards in England and Wales
- Chief executives/regional directors and clinical governance leads of strategic health authorities (England) and regional offices (Wales)
- Healthcare Commission
- Healthcare Inspectorate Wales
- NHS Purchasing and Supply Agency
- Welsh Health Supplies
- Royal Colleges and societies
- NHS Direct
- Relevant patient organisations and community health councils in Wales
- Independent Healthcare Forum
- Commission for Social Care Inspection
- Quality Improvement Scotland and DHSSPS, Northern Ireland

Government of South Australia

Children, Youth and Women's Health Service

Women's & Children's Hospital

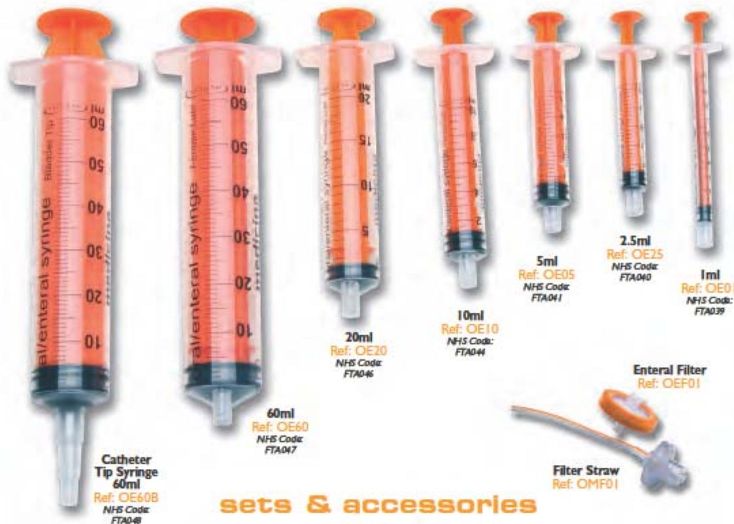
Oral Syringes

Issues:

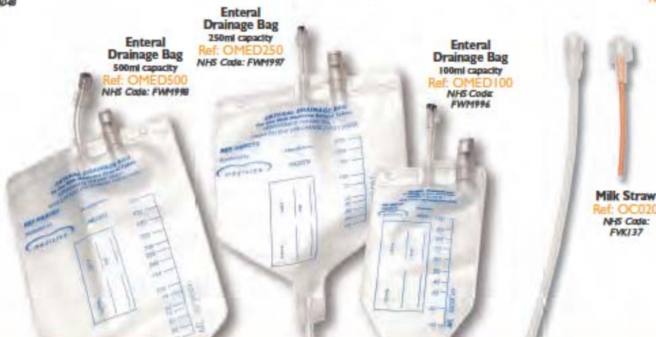
- compatibility with neonatal enteral feeding systems

medicina
hospital oral/enteral syringes & nasogastric tubes

safety syringes



sets & accessories



Enteral Filter
Ref: OEF01

Filter Straw
Ref: OMF01

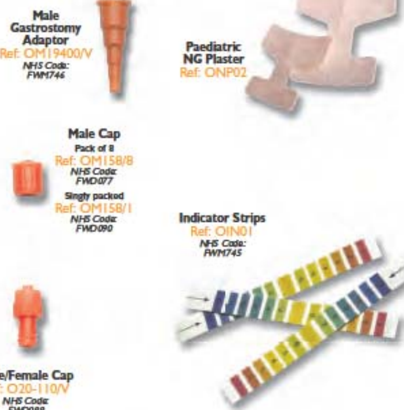
Milk Straw
Ref: OC020
NHS Code: FVK137

Male Gastrostomy Adaptor
Ref: OM19400/V
NHS Code: FWM746

Adult NG Plaster
Ref: ONP01

Paediatric NG Plaster
Ref: ONP02

Male Cap
Pack of 8
Ref: OM158/8
NHS Code: FWD077
Singly packed
Ref: OM158/1
NHS Code: FWD090



Indicator Strips
Ref: OIN01
NHS Code: FWM745

Male/Female Cap
Ref: O20-110/V
NHS Code: FWD089

Bottle Adaptor 24-26mm
Ref: OBA04

Medicine Bottle Adaptor
Ref: OBAD1

Bottle Adaptor 14-16mm
Ref: OBA02

Bottle Adaptor 17-20mm
Ref: OBA03

NG tubes

short-term infant paediatric nasogastric tubes

Tube	Description	NHS Code
OSG4/50	4FR X 50CM	
OSG4/80	4FR X 80CM	
OSG5/50	5FR X 50CM	FWM751
OSG5/80	5FR X 80CM	FWM747
OSG6/50	6FR X 50CM	FWM752
OSG6/80	6FR X 80CM	FWM748
OSG8/50	8FR X 50CM	FWM753
OSG8/80	8FR X 80CM	FWM749
OSG8/120	8FR X 120CM	FWM755
OSG10/80	10FR X 80CM	FWM750
OSG10/120	10FR X 120CM	FWM754
OSG12/80	12FR X 80CM	FWM865
OSG14/80	14FR X 80CM	FWM866
WEIGHTED		
OSG6/50W	6FR X 50CM	FWM867
OSG6/80W	6FR X 80CM	FWM868
OSG8/80W	8FR X 80CM	FWM869
OSG10/80W	10FR X 80CM	FWM870
OSG12/80W	12FR X 80CM	FWM871

long-term fine-bore nasogastric tubes

Tube	Description	NHS Code
ONGP6/55	6FR X 55CM	FWM1007
ONGP6/75	6FR X 75CM	FWM1006
ONGP6/85	6FR X 85CM	FWM1005
ONGP8/55	8FR X 55CM	FWM1004
ONGP8/75	8FR X 75CM	FWM1003
ONGP8/85	8FR X 85CM	FWM1002
ONGP8/120	8FR X 120CM	FWM1001
ONGP10/85	10FR X 85CM	FWM1000
ONGP10/120	10FR X 120CM	FWM999
WEIGHTED		
NGP8/85W	8FR X 85CM	FWM882
NGP10/85W	10FR X 85CM	FWM883

short term wide-bore nasogastric tubes

Tube	Description	NHS Code
ORT6/80	6FR X 80CM	
ORT8/80	12FR X 80CM	
ORT10/80	10FR X 80CM	
ORT12/100	12FR X 100CM	FWM884
ORT14/100	14FR X 100CM	FWM885
ORT16/100	16FR X 100CM	FWM886
ORT18/100	18FR X 100CM	FWM887
ORT20/100	20FR X 100CM	FWM888

long term silicone nasogastric/jejunal tubes

Tube	Description
OSG6/85WSIL	6FR X 85CM
OSG8/85WSIL	8FR X 85CM
OSG10/85WSIL	10FR X 85CM

Government of South Australia

Children, Youth and Women's Health Service

Women's & Children's Hospital

Issues:

- compatability with neonatal enteral feeding systems
- colours, clarity

Government of South Australia
Children, Youth and Women's Health Service

Women's & Children's Hospital

Issues:

- compatability with neonatal enteral feeding systems
- colours, clarity
- pack size (infection control)

Government of South Australia

Children, Youth and Women's Health Service

Women's & Children's Hospital

Issues:

- compatability with neonatal enteral feeding systems
- colours, clarity
- pack size (infection control)
- cost

Issues:

- compatability with neonatal enteral feeding systems
- colours, clarity
- pack size (infection control)
- cost
- inpatients, all patients

Government of South Australia

Children, Youth and Women's Health Service

Women's & Children's Hospital

Issues:

- compatability with neonatal enteral feeding systems
- colours, clarity
- pack size (infection control)
- cost
- inpatients, all patients
- coroner's report (http://www.courts.sa.gov.au/courts/coroner/findings/findings_2009/parrott.finding.htm)

Oral Syringes

Children's Hospital's Australasia:

"Standard for Oral Syringes and Enteral Feeding Systems"

Key points

- NOT compatible with IV access
- compatible with enteral feeding sets of ALL sizes

Government
of South Australia

Children, Youth and
Women's Health Service

Women's
& Children's
Hospital