

## 13. PRESCRIBING AND ADMINISTRATION OF MEDICINES IN CHILDREN (including neonates)

13.1 Since children (classed as less than 16yrs of age at UHL) or young adults (under 25yrs) requiring paediatric doses are particularly vulnerable.

**The following measures are an important addition to earlier sections on prescribing and administration, applying to all areas across UHL that treat children or young adults.**

It is essential that all staff involved in the prescription and administration of medicines to children familiarise themselves with the various problems and potential hazards of this situation.

If, in exceptional circumstances, children are being cared for on an adult ward, it is the responsibility of the caring team to seek advice from paediatric specialists where doubt exists concerning medicine dosages.

The Pharmacist and/or Medicines Information Service should be consulted whenever necessary for advice and information on dose and formulation when prescribing for children irrespective of location within the healthcare community.

### IF IN DOUBT ALWAYS ASK FOR ADVICE

**13.1.1 Staff who are authorised to PRESCRIBE medicines for children are: (Also see Appendix 1)**

- Medical Staff regularly working within a paediatric setting. Doctors must have evidence that they have received training for prescribing in children, which is relevant to their area of practice.
- For the administration of medicines by anaesthetists & surgeons in an operating theatre, refer to LMC chapter 15.4.1
- Authorised Non-Medical prescribers regularly working within a paediatric setting who have received appropriate training, gained competence and have registered this qualification with their professional body they also must be on the Trust register and update their skills on an annual basis.

**13.1.2 Staff who are authorised to ADMINISTER medicines to children are:**

- Registered Children's Nurse and Nursing associates – who has undertaken local neonatal/paediatric medication administration training and has been assessed as competent. (See section 13.1.3 below for detail on Student Nurses). Nursing associates can administer medicines to children, provided that the activity has been approved by the Trust, it is within the code of practice for their professional body and they have undertaken and passed appropriate Trust approved training and competency assessment.
- Medical staff working within a paediatric setting who have received appropriate training.
- Registered Adult, General, Learning Disability or Mental Health Nurse or Midwife – who work regularly in a paediatric setting and has undertaken local neonatal/paediatric medication administration training being assessed as competent

- Registered Adult, General, Learning Disability or Mental Health Nurse or Midwife – who work regularly in a **non** paediatric setting *where under 16's may be treated* and has undertaken and passed local neonatal/paediatric medication administration training (see section 13.2 and 13.3 for further detail)
- Other Allied Health Professionals (AHP)/Health Care Scientists (HCS) e.g. physiotherapists, registered Radiology Technicians provided that this activity has been approved by the Trust, it is within the code of practice for their professional body and they have undertaken and passed appropriate Trust approved training and competency assessment.
- Unregistered Healthcare Staff as part of an approved scheme of delegation, provided that this activity has been approved by the Trust, and they have undertaken and passed appropriate Trust approved training and competency assessment.

Current approved schemes

- ❖ Sodium chloride 0.9% as a flush for cannulation procedures only
- ❖ Eye drops (cyclopentolate 0.5%, 1%; Oxybuprocaine 0.4%; Proxymetacaine 0.5%; Sodium chloride 0.9%; Tropicamide 1%) for electrodiagnostic procedures only
- Parents, carers or patients as part of an approved scheme of delegation provided that this activity has been approved by the Trust, and they have undertaken and passed appropriate Trust assessment (“Self Administration”)

*Any staff who have not undertaken specific medication administration training **must receive local neonatal/paediatric training before** being involved in the administration of medicines to patients under 16 years of age*

**13.1.3 “Independent” checking is deemed to be the process where each party in preparing and administering the drug carries out the full checks (Refer to 6’R’s) individually to reduce the risk of inadvertent misreading that can occur when close checking of medications.**

### **Independent Checking**

The person undertaking the second check is to perform an independent check of the full drug preparation process. The second member of authorised staff must check the drug, dose (including calculation), time, route and documentation independently before administration. They are also required to verify the patient’s identity and check administration details e.g. infusion rates. They do not need to witness the whole administration.

## **There are two levels of Administration of Medicines to Children in the Hospital Setting**

### **1. Single Checked Medication Administration**

There is a list of medications that have been agreed can be administered to children under a single check – refer to Appendix 2 and 3 for further details. These medicines can be administered by those staff meeting criteria in section 13.1.

### **2. Double (Independent) Checked Medication Administration**

The person undertaking the second check is to perform an independent check of the full drug preparation process as described above.

### **2a Non Injectable Medication (includes eye, nasal and ear drops, rectal, NG, topical medication)**

All oral medication administrations that are not on the single check medication list must be independently checked **by two members of staff** as defined in 13.1.2 (Independent Checking)

Pre-registration Childrens Field of Practice students and Trainee Nursing Associates may only be third checkers for all medicines which are not on the UHL Womens and Childrens CMG Single Check Medicine list. These staff may be second checkers for medicines that are listed on the UHL Womens and Childrens CMG Single Check Medicine list as per Appendix 2 or 3

### **2b Injectable Medications**

All injectable medications (SC, IM and IV), including fluids, must be prepared and checked by two members of Registered staff as listed section 13.1.2

For IV administration staff must also have completed local neonatal/paediatric IV training and been assessed as competent

**13.1.4** The dose of the medicine should **always** be checked against the latest edition of the BNF for Children (available online) or locally agreed formulary. Attention must be paid as to whether the reference relates to the single or total daily dose. If the medicine is not included in the above references, advice should be sought from the paediatric pharmacy team.

**13.1.5** If using weight or body surface area to calculate a dose, the weight or BSA must be a recent measurement. The patient's weight should be updated at least every week, but this may be more frequent in very young children or patients whose weight may fluctuate.

#### **CALCULATE THE DOSE AND CHECK IT AGAIN - particular attention should be paid to decimal places**

Note: The final dose prescribed may have been adjusted to within +/- 5% of the exact dose to aid ease of dose administration. Adjustments greater than +/- 5% must be discussed with a pharmacist or medical staff

**13.1.6** The date of birth, age and weight in kilograms, and where appropriate height and body surface area **must** be written on the prescription charts. The person taking these measurements must sign and date in the relevant sections of the chart (paper or electronic) .

**13.1.7** For patients UNDER 16 years of age who are being treated in an adult environment, e.g. Obstetrics

- The patient should be assessed by a doctor or a pharmacist regarding the suitability of using adult doses.
- If adult oral medication doses are suitable, TWO Registered Adult/General Nurses or Midwives who have completed the local neonatal/paediatric training may administer doses as per section 13.1.2.

- If any injectable or paediatric oral doses are required then, TWO Registered Adult/General Nurses or Midwives who have completed and passed the local neonatal/paediatric training may administer doses as per section 13.1.2.
- For newborns who are resident with their mother, guidelines are provided within section 16 - Midwife administration.

**13.1.8** For patients OVER 16 years of age but under 18 years of age who are being treated in an adult environment, e.g. Obstetrics.

- The patient should be assessed by a doctor or a pharmacist regarding the suitability of using adult doses.
- If adult oral doses are suitable, one Registered Adult/General Nurse or Midwife may administer oral medication as per section 6 of the Leicester Medicines Code.
- If adult injectable doses are suitable two Registered Adult/General Nurses or Midwives may administer injectable medication as per section 6 of the Leicester Medicines Code.
- If paediatric doses (oral or injectable) are required or there is a difficulty with the level of understanding, consent or complexity of medication then TWO Registered Adult/General Nurses or Midwives may administer doses as per section 13.1.2

**13.2** The parent/carer/patient may administer the medicine under the supervision of a Registered Practitioner Where the parent is administering the medicine, the Registered Practitioner **MUST**:

- Check the medicine as in Section 13.1.3 above
- Observe the administration of the medicine
- Record the administration in the appropriate records

Please refer to local guidance regarding self-administration of medicines by parents/carers/patients

**13.3** **Paediatric formulations** must be used when these are available. Where they are not available and multidose or adult strength preparations have to be used, particular vigilance should be exercised when calculating and preparing the dose.

**13.4** In UHL babies, children and young people, must wear identity bracelets to enable staff to identify the patient, especially during the medicines administration process. In LPT locations if a child is an inpatient on a Mental Health ward and does not wear an identity bracelet, medicines must not be administered unless the Registered Nurse is certain of the patient's identity.

**13.5** Oral preparations should be sugar free wherever possible.

**13.6** When administering injections of doses less than 1ml in volume, a 1ml **syringe graduated to 0.01ml** must be used

**13.7** Oral syringes must always be used for the preparation and administration of oral doses for babies, children and young people. Injectable syringes must never be used for the preparation and administration of oral doses.

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- 13.8** Enteral tube syringes (EnFit) must be used for the preparation and administration of oral doses, as well as to patients with enteral tubes. Refer to nursing guidelines for further information
- 13.9** Only the correct volume of medication should be taken to the patient (this mainly applies to bolus and short infusions) – this may include a known quantity of solution for priming the line in very small doses e.g. on NNU. The excess medication must be withdrawn from the bottle or bag or the correct dose drawn into a new syringe or infusion bag. The volume limits on pumps should not be used to control the amount of medication given.

## Appendix 1 Specific Specialist Prescribing Requirements

The following are prescribing standards that are specific to particular units and are designed to minimise risk when using medication in the listed specialist area(s).

### All areas

Products by brand name

- Joulie's phosphate
- Curosurf
- Ambisome
- Vaccines
- Sytron

Routes

- ETT – via endotracheal tube
- UVC – via umbilical venous catheter
- UAC – via umbilical arterial catheter
- LL – via long line

Multiple routes

- PO/NG
- IV/UVC and
- IV/LL

Appendix 2

**UHL - All Children's Areas**

**SINGLE PRACTITIONER ADMINISTRATION LIST**

Single Practitioner Administration is defined as the process in which an authorised practitioner can administer medicines from this list at the permitted dose without having the calculation or administration independently checked. This list can only be used for patients within the children's hospital or the children's emergency department.

**Who can administer from this list?**

- Routinely - Registered Adult, Registered Nursing associates, General, Learning Disability or Mental Health Nurse or Midwife – who work regularly in a paediatric setting and has undertaken local neonatal/paediatric medication administration training being assessed as competent.
- Individuals who meet these criteria but do not feel happy to single check an item should obtain an independent check as they would for any other medicine.
- All other staff groups should refer to Section 13 of the Leicester Medicines Code (Section 13.1.2) available via Insite
- Pre-registration Childrens Field of Practice students and Trainee Nursing Associates may be second checkers for single check medicines to support their learning in practice
- **All single check items should have “SC” or “Single Check” written in the “additional information” box on the prescription by the FIRST person administering the drug**
- All doses should be single signed on the prescription chart in the usual place

MEDICINE	FORMULATION	PERMITTED DOSES
<b>ANTIBIOTICS</b>		
Amoxicillin	Syrup/Capsule	62.5mg/125mg/250mg/500mg
Co-Amoxiclav	Syrup (125/31)	0.15-0.3ml per kg
Co-Amoxiclav	Syrup (250/62)	2.5-10ml
Co-Amoxiclav	Tablet	250/125mg & 500/125mg
Cefalexin	Syrup/Capsule	62.5mg/125mg/250mg/500mg
Clarithromycin	Syrup/Tablets	62.5mg/125mg/250mg
Erythromycin	Syrup/Capsule	62.5mg/125mg/250mg/500mg
Flucloxacillin	Syrup/Capsule	62.5mg/125mg/250mg/500mg
Metronidazole	Syrup/Tablet	100mg/200mg/300mg/400mg
Phenoxymethylpenicillin	Syrup/Tablet	62.5mg/125mg/250mg/500mg
Trimethoprim	Syrup/Tablet	50mg/100mg/200mg
<b>ANALGESICS/ ANTIPYRETICS</b>		
Ibuprofen	Syrup	50mg/100mg/150mg/200mg
Ibuprofen	Tablets	200mg/400mg
Paracetamol	Syrup (120mg/5ml)	60mg/120mg/240mg/360mg/480mg
Paracetamol	Syrup (250mg/5ml)	250mg/500mg/750mg/1g
Paracetamol	Tablet/Suppository	500mg/1g
<b>ANTI-HISTAMINE / STEROIDS</b>		

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Cetirizine	Syrup/ Tablet	2.5mg/5mg/10mg
Chlorphenamine	Syrup/ tablet	1mg/2mg/4mg
<b>SUPPLEMENTS</b>		
Abidec	Syrup	0.3ml/0.6ml
Dalivit	Syrup	0.3ml/0.6ml
Sytron	Syrup	1ml/2ml/5ml
Vitamins A, D, E	Capsule (individual or combination)	No restriction
<b>INHALED / NEBULISED</b>		
Beclometasone (All strengths)	Inhaler	No restriction Prescription to specify inhaler strength
Budesonide	Nebuliser	250micrograms / 500micrograms/1mg
Ipratropium	Inhaler	No restriction
Ipratropium	Nebuliser	125micrograms / 250micrograms
Salbutamol	Inhaler	No restriction
Salbutamol	Nebuliser	2.5mg/5mg
Seretide (All strengths)	Inhaler	Strength must be specified on prescription
Sodium Chloride 0.9%	Injection nebulised	To aid movement of secretions – trained staff ONLY
<b>TOPICAL</b>		
All Topical Medicines and Dressings (Including medicated plasters) are single practitioner check. This does not include ear, nose and eye drops or eye ointment..		
Amethocaine 4% (Ametop)	Cream	As per PGD/PSD
Aciclovir 5%	Cream/ointment	No restriction
Cavilon	Cream/Sticks	No restriction
Clotrimazole 1%	Cream	No restriction
Epimax or equivalent	Cream	No restriction
Hydromol or equivalent	Cream/Ointment	No restriction
Metanium	Ointment	No restriction
Mupirocin 2%	Nasal Ointment	MRSA prevention only
50/50 (Liquid & White soft Paraffin)	Ointment	No restriction
Stellisept/ Octenisan	Wash	MRSA prevention only
<b>EYE/EAR DROPS AND MOUTH WASHES</b>		
Aciclovir 5%	Eye ointment	No restriction
Chloramphenicol	Eye drops 0.5% /Ointment 1%	No restriction
Chlorhexidine 0.2%	Mouthwash	5ml
Cyclopentolate 0.5%/1%	Eye drops	No restriction
Diffiam 0.15%	Oral spray	2 squirts
Gentamicin 0.3%	Ear drops	No restriction
Hypromellose 0.3%	Eye drops	No restriction
Lacrilube	Eye ointment	No restriction
Miconazole 2%	Oral Gel	No restriction
Nystatin 100,000units/ml	Suspension	1ml



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Oxybuprocaine HCl 0.4%	Eye drop	No restriction
Proxymetacaine HCl 0.5%	Eye drop	No restriction
Sodium Chloride 0.9%	Nose drops	No restriction
Sodium Chloride 0.9%	Eye drops	No restriction
Sofradex	Ear drop	No restriction
Tropicamide 1%	Eye drop	No restriction
<b>MISCELLANEOUS</b>		
<b>Products listed in the ACBS category in the Drug Tariff will be single practitioner check. This includes supplements, feeds and liquid thickeners.</b>		
Breast Milk Fortifier	Sachet	1-2 sachet
Creon 10,000 or 25,000	Capsule	Capsules per latest dietician plan
Creon Micro	Granules	Number of Creon micro scoops as per latest dietician plan
Dioralyte	Sachet	1 sachet
Gaviscon Infant	Sachet	1 or 2 sachets
Glycerine	Suppository	1g/2g/4g
Lactulose	Syrup	No restriction
Oxygen	Facemask, prongs, nebuliser	No restriction
Pancrex V	Oral Powder	Number of relevant sized scoops as described in latest dietician plan
Peptac	Suspension	No restriction
Senna	Syrup	2.5ml/5ml/7.5ml
Sodium Chloride 0.9%	Injection flush	5ml – authorised staff ONLY

Appendix 3

[UHL Womens and Childrens CMG](#)

[SINGLE PRACTITIONER ADMINISTRATION LIST – Neonatal Unit](#)

Single Practitioner Administration is defined as the process in which an authorised practitioner can administer medicines from this list at the permitted dose without having the calculation or administration independently checked

**Who can administer from this list?**

Any registered nurse permanently employed by the University Hospital of Leicester Neonatal service who is no longer working in a supernumerary role and has undertaken local neonatal medication administration training being assessed as competent

- Individuals who meet these criteria but do not feel happy to single check an item should obtain an independent check as they would for any other medicine.
- All other staff groups should refer to Section 13 of the Leicester Medicines Code (Section 13.1.2) available via Insite
- Pre-registration Childrens Field of Practice students and Trainee Nursing Associates may be second checkers for single check medicines to support their learning in practice
- **All single check items should have “SC” or “Single Check” written in the “additional information” box on the prescription by the FIRST person administering the drug**
- All doses should be single signed on the prescription chart in the usual place

MEDICINE	FORMULATION	PERMITTED DOSES Restriction / Notes
<b>EYE/EAR DROPS</b>		
Aciclovir 5%	Eye ointment	
Chloramphenicol	Eye drops 0.5% /Ointment 1%	Refer to NNU medicines documents on Badgernet
Cyclopentolate 0.5%	Eye drops	
Cyclomydril eye drops (Cyclopentolate 0.2% & Phenylephrine 1%)	Eye drops	
Diclofenac 0.1% eye drops	Eye drops	
Gentamicin 0.3%	<b>EAR</b> drops	
Hypromellose 0.3%	Eye drops	
Phenylephrine hydrochloride 2.5%	Eye drops	
Proxymetacaine 0.5%	Eye drops	
Tropicamide 1%	Eye drops	
<b>TOPICAL</b>		
All nappy creams/ointments	Cream/Ointment	Refer to NNU medicines documents on Badgernet
Cavilon	Cream/Sticks	
Clotrimazole 1%	Cream	
Epimax or equivalent	Cream	
Miconazole 2%	cream	
Mupirocin 2%	Nasal Ointment	
Octenisan	Wash	
Orobase	Ointment	
Tetracaine 4% (Ametop)	Gel	
<b>MISCELLANEOUS</b>		
Breast Milk Fortifier	Sachet	Refer to NNU medicines documents on Badgernet
Carobel	Powder	
Dalivit	Syrup	
Dioralyte	Sachet	
Folic Acid	Liquid	
Gaviscon Infant	Sachets	

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Glucose 40%	Gel	
Glycerine	Suppository	
Joules Phosphate	Liquid	
<b>MEDICINE</b>	<b>FORMULATION</b>	<b>PERMITTED DOSES Restriction / Notes</b>
Labinic (probiotic)	Drops	Refer to NNU medicines documents on Badgernet
Nitric Oxide	Ventilator circuit	
Nystatin 100,000units/ml	Suspension	
Pancrex V	Oral Powder	
Oxygen	Facemask, prongs, ventilator	
Sucrose 24% (Algedol)	Liquid	
Sytron	Syrup	