

Document control sheet

GUIDELINE NUMBER	CH PH N 05
AREA IN WHICH THIS MONOGRAPH APPLIES	NICU

DIVISIONAL AUTHORISATION

GROUP	DATE
Paediatric monograph review group	Oct 2022
Clinical Director – Paediatric BU	Oct 2022
Divisional Clinical Governance Committee – Integrated care	Oct 2022

AUTHORS

Author	Position	Date
Written by:	Senior Pharmacist Paediatrics	April 2005 version 1

If review:

	Position	Date
Reviewed by:	Senior Pharmacist, Paediatrics	November 2010 version 2
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Reviewed and transferred to new template by:	Sharon Conroy, Senior Pharmacist Paediatrics	November 2019 version 4
Checked by: Harriet Hughes	Advanced Pharmacist, Women's & Children's	November 2019

Change history:

Changes Reference	Change details	Date
1	Instructions for preparation updated – further dilution to <60mg/mL removed to align practices across the Trust. H Hughes, Advanced Pharmacist	18.02.22
	Dosing change in line with new guideline and NICU guidelines	20.07.22

Benzylpenicillin – NICU

Presentation:	600mg dry powder vials (other strengths available but not kept on NICU)																															
Indication:	See separate full clinical guideline for antibiotics on NICU (NIC IN 02).																															
Dose:	<table border="1"> <tr> <td rowspan="3">Neonatal Sepsis</td> <td>< 7 days old</td> <td>25mg/kg</td> <td>12 hourly</td> <td>Where clinically unwell, can give 8 hourly</td> </tr> <tr> <td>7-28 days old</td> <td rowspan="2">25mg/kg*</td> <td colspan="2">8 hourly</td> </tr> <tr> <td>> 28 days old</td> <td colspan="2">6 hourly</td> </tr> <tr> <td colspan="5"><i>*Can increase to 50mg/kg 8 hourly in severe infection</i></td> </tr> <tr> <td rowspan="3">Meningitis</td> <td>< 7 days old</td> <td rowspan="3">50mg/kg</td> <td colspan="2">12 hourly</td> </tr> <tr> <td>7-28 days old</td> <td colspan="2">8 hourly</td> </tr> <tr> <td>> 28 days old</td> <td colspan="2">4-6 hourly</td> </tr> </table> <p>Doses of 25mg/kg must be rounded UP to the nearest 10mg dose.</p> <p>Doses of 50mg/kg must be rounded DOWN to the nearest 10mg dose to be administered as an IV injection.</p>				Neonatal Sepsis	< 7 days old	25mg/kg	12 hourly	Where clinically unwell, can give 8 hourly	7-28 days old	25mg/kg*	8 hourly		> 28 days old	6 hourly		<i>*Can increase to 50mg/kg 8 hourly in severe infection</i>					Meningitis	< 7 days old	50mg/kg	12 hourly		7-28 days old	8 hourly		> 28 days old	4-6 hourly	
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Route of administration:	Doses may be given as a slow IV bolus over 3-5 minutes																															
Instructions for preparation:	<p>Doses are prepared by Pharmacy during normal working hours (RDH site only). Out-of-hours doses, along with all doses at QHB site should be prepared on NICU and used immediately.</p> <p>Using 600mg vials:</p> <ul style="list-style-type: none"> • Add 5.6ml of water for injections to vial (displacement value is 0.4ml) • This produces a concentration of 100mg in 1ml • Withdraw required volume for dose <p><i>Example: 2 day old neonate weighing 1.5kg prescribed 70mg dose:</i></p> <ul style="list-style-type: none"> - $1.5\text{kg} \times 50\text{mg} = 70\text{mg}$ - Follow directions above to produce 100mg in 1ml. - Withdraw 0.7mL (70mg) - Administer as a slow IV bolus 																															
Prescribing:	Paper drug chart (RDH) Electronic prescription (MediTech) (QHB)																															
Known compatibility issues	See separate compatibility chart. Ensure flushing with sodium chloride 0.9% before and after doses to avoid mixing in the IV administration line.																															
Additional Comments:	<p>Contra-indicated in known penicillin-allergy. Staff handling benzylpenicillin should take care to avoid contact with skin as sensitisation may occur.</p> <p>Benzympenicillin may be given at a concentration of 600mg in 4mL (150mg in 1mL) via a central venous access device if necessary.</p> <p><i>N.B. BNF-C recommends that doses ≥ 50 mg/kg should be given over 15–30 minutes to avoid CNS toxicity. Slow bolus has been used in UHDB NICU's for many years without apparent problem. Practice varies around the country.</i></p>																															

Note: The contents of this monograph should be read in conjunction with information available in the BNFC and Medusa.

References:

British National Formulary for Children, accessed via www.medicinescomplete.com on 29/8/19

Medusa Injectable Medicines Guide, accessed via <https://medusa.wales.nhs.uk/IVGuideDisplay.asp> on 29.8.19

Electronic Medicines Compendium Benzylpenicillin Genus Pharmaceuticals accessed via <https://www.medicines.org.uk/emc/product/3828/smpc#PRODUCTINFO> on 21.10.19