

# Benzylpenicillin – NICU

Reference No: CH PH N 05

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:	<p>&lt; 7 days old    50mg/kg/dose TWICE daily (12-hourly)            7-28 days old    50mg/kg/dose THREE times daily (8 hourly)            &gt; 28 days old    50mg/kg/dose FOUR to SIX times daily (4-6 hourly)</p> <p><b>**All doses rounded down to the nearest 10mg**</b></p>
Route of administration:	Doses may be given as a <b>slow IV bolus</b> over 3-5 minutes.
Instructions for preparation:	<p>Doses are prepared by Pharmacy during normal working hours. Out-of-hours doses should be prepared on NICU and used immediately.</p> <p>Using 600mg vials:</p> <ul style="list-style-type: none"> <li>• Add 5.6ml of water for injections to vial (displacement value is 0.4ml)</li> <li>• This produces a concentration of 100mg in 1ml</li> <li>• Draw up required dose volume and dilute further to a maximum concentration of 60mg/ml with sodium chloride 0.9% or glucose 5%.</li> </ul> <p><i>Example: 2 day old neonate weighing 1.5kg prescribed 70mg dose:</i></p> <ul style="list-style-type: none"> <li>- Follow directions above to produce 100mg in 1ml.</li> <li>- Divide the dose by this concentration to give the volume to draw up i.e. <math>70\text{mg}/100\text{mg} = 0.7\text{ml}</math>.</li> <li>- Dilute the 0.7ml to a total volume of 1.2ml (concentration must be <math>\leq 60\text{mg/ml}</math>) with sodium chloride 0.9% or glucose 5%.</li> </ul> <p><i>(NB: divide the dose (70mg) by the required concentration of diluted solution (60mg/ml) to calculate total volume i.e. <math>70/60 = 1.166\text{ml}</math>, and draw up to the nearest measurable volume e.g. 1.2mL)</i></p>
Prescribing:	Paper drug chart
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>Benzyllpenicillin 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 <math>\geq 50\text{ mg/kg}</math> should be given over 15–30 minutes to avoid CNS toxicity. Slow bolus has been used in Derby NICU 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](http://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

## Document control sheet

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<b>AREA IN WHICH THIS MONOGRAPH APPLIES</b>	Paeds/NICU

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Author	Position	Date
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	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
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