

NICU: Dobutamine

Presentation:	Solution for injection 5mg/ml, 50ml ampoules
Indication:	Inotropic support
Dose:	2–20 micrograms/kg/minute Start infusion at 5 micrograms / kg /minute and adjust according to clinical response
Route of administration:	Continuous intravenous infusion via SMART pump via central line
Instructions for preparation:	<p>Single strength</p> <ul style="list-style-type: none"> Measure 30mg/kg dobutamine (round to nearest 0.5mg) Dilute with glucose 5% or sodium chloride 0.9% to a final volume of 50ml A dose of 5 micrograms/kg/min will be provided by a flow rate of 0.5ml/hour <p>Double strength (only if wt 4kg or less)*</p> <ul style="list-style-type: none"> Measure 60mg/kg dobutamine (round to nearest 0.5mg) Dilute with glucose 5% or sodium chloride 0.9% to a final volume of 50ml A dose of 10 micrograms/kg/min will be provided by a flow rate of 0.5ml/hr <p>Quadruple strength (only if wt 2kg or less)*</p> <ul style="list-style-type: none"> Measure 120mg/kg dobutamine (round to nearest 0.5mg) Dilute with glucose 5% or sodium chloride 0.9% to a final volume of 50ml A dose of 10 micrograms/kg/min will be provided by a flow rate of 0.25ml/hr <p>*These weight restrictions are purely due to the concentration of the neat injection solution.</p> <p>If central access not available a single strength infusion may be given into a large peripheral vein only if the infant weighs no more than 1.6kg (max conc 1mg/ml). Do not give double or quadruple strength dobutamine peripherally.</p>

Prescribing

****Please ensure concentration (in mg/ml) is completed to enable use of SMART pumps****

To calculate **concentration** of infusion for SMART pumps (in mg/ml) divide total mg in infusion by total volume of infusion (ml):

$$\text{e.g. } 21\text{mg in } 50\text{mls} = \frac{21\text{mg}}{50\text{mls}} = 0.42\text{mg/ml}$$

Example prescription for 0.7 kg infant (single strength):

Drug	Drug amount in syringe	Diluent	Total volume (ml)	Route	
<i>Dobutamine</i>	<i>21mg</i>	<i>Glucose 5%</i>	<i>50ml</i>	<i>IV</i>	
Start date	Drug concentration per ml	Infusion range	Min	Max	Name, Sig, Bleep
<i>6/3/18</i>	<i>0.42mg/ml</i>	Dose/kg/time	<i>2micrograms/kg/min</i>	<i>20micrograms/kg/min</i>	<i>A.Doctor</i>
Pharm		ml/hr	<i>0.2</i>	<i>2</i>	<i>#1234</i>

Directions for administration via SMART pump	<ul style="list-style-type: none"> • Load Syringe, prime line using the pump for accurate dosing. • Open 'Neonates' folder then open 'doBUTamine' programme. • Using DATA chevrons enter concentration in mg/ml and confirm • Enter baby's weight in kg and confirm • Enter the dose in micrograms/kg/min • Visually confirm the rate (ml/h) against the prescribed dose (micrograms/kg/min) • Perform STOP moment with medical team (Pump against prescription) • Connect to Child • Press start button
Known compatibility issues	See separate compatibility chart.
Additional Comments:	<p>Dobutamine injection may turn pink due to slight oxidation of the drug. Such solutions are safe to use as there is no significant loss of potency. Discard the diluted solution after 24 hours.</p> <p>Tolerance may develop with continuous infusions longer than 72 hours requiring an increase in dose. Avoid abrupt withdrawal. Reduce dose gradually to avoid unnecessary hypotension.</p> <p>Dobutamine injection contains sodium metabisulphite which can cause allergic type reactions, including anaphylactic symptoms and asthma-like symptoms.</p>

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

References:

NUH PICU Pharmacopoeia morphine monograph, accessed via www.nuh.nhs.uk on
British National Formulary for Children, accessed via www.medicinescomplete.com on
SPC for accessed via www.medicines.org.uk on
Medusa Injectable Medicines Guide, accessed via <http://medusa.wales.nhs.uk> on
Trissel LA (Ed), Handbook on Injectable Drugs, accessed via www.medicinescomplete.com on

Document control sheet

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Change history:

Changes Reference	Change details	Date
	Updated concentration of dobutamine ampoules from 12.5mg/mL to 5mg/mL	25/7/18