University Hospitals of Derby and Burton
NHS Foundation Trust

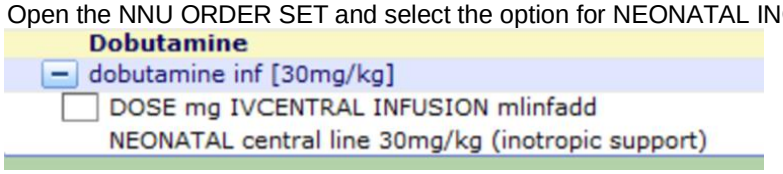
NICU/NNU: Dobutamine

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:	**Single strength** • 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 **Double strength (only if weight 4kg or less) *** • 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/hour **Quadruple strength (only if weight 2kg or less) *** • 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/hour *These weight restrictions are purely due to the concentration of the neat injection solution 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 concentration 1mg/ml). Do not give double or quadruple strength dobutamine peripherally.

Prescribing

QHB MediTech

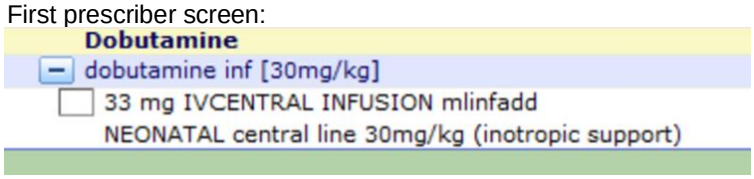
Open the NNU ORDER SET and select the option for NEONATAL INOTROPES. Then tick dobutamine infusion.



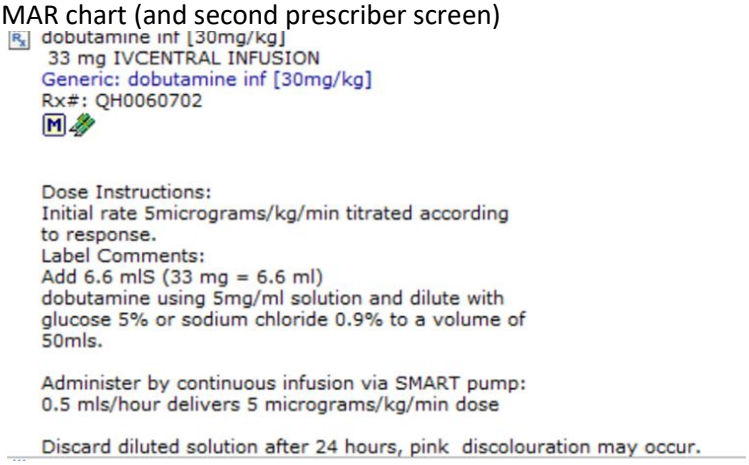
The system will calculate the amount of dobutamine needed to make the infusion.
The prescriber screen (order screen) and MAR screen (medication chart) will explain how to make the infusion and provide initial rate guidance.

Example for 1.1kg baby.

First prescriber screen:



MAR chart (and second prescriber screen)



RDH

****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):

e.g. 21mg in 50mls = 21 mg / 50mls = 0.42mg/ml

Example prescription for 0.7 kg infant (single strength):

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

Directions for administration via SMART pump	• 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:	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. 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. Dobutamine injection contains sodium metabisulphite which can cause allergic type reactions, including anaphylactic symptoms and asthma-like symptoms.

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 Accessed on 1/09/23
SPC for accessed via www.medicines.org.uk Accessed on 1/09/23
Medusa Injectable Medicines Guide, accessed via http://medusa.wales.nhs.uk Accessed on 1/09/23

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Document control sheet

GUIDELINE NUMBER	
AREA IN WHICH THIS MONOGRAPH APPLIES	Neonatal Intensive Care Unit

DIVISIONAL AUTHORISATION	
GROUP	**DATE**
Paediatric monograph review group	07/12/2023

AUTHORS		
Author	Position	Date
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If review:

	Position	Date
Reviewed by: Maisie-Jane Fry	Rotational Clinical Pharmacist	September 2023
Checked by:Ellie Cheale/ Lamia Ahmed	Womens and Childrens Pharmacist	September 2023

Change history:

Changes Reference	Change details	Date
	Updated concentration of dobutamine ampoules from 12.5mg/mL to 5mg/mL	25/7/18
	Updated to UHDB status for cross-site use - include reference to MediTech prescribing	April 2023
	Rewording of dosing to make clearer	20/11/23