

<b>Alert</b>	In conditions with low systemic vascular resistance (SVR) (e.g., septic shock) dobutamine is not the appropriate first drug of choice												
<b>Indication</b>	Inotrope to increase cardiac output in neonates with myocardial dysfunction and unchanged or increased systemic vascular resistance.												
<b>Action</b>	Catecholamine with beta-1 and beta-2 receptor actions which increases myocardial contractility, heart rate and conduction velocity and decreases SVR <sup>1</sup> . Dose dependent effects: <ul style="list-style-type: none"> <li>• Low dose, 2.5 microgram/kg/min – no significant hemodynamic effects in neonates with cardiovascular compromise</li> <li>• Moderate dose, 5–7.5 microgram/kg/min – increases cardiac output</li> <li>• Higher dose, 5–20 microgram/kg/min – increases cardiac output and blood pressure in hypotensive preterm infants</li> </ul> An additional effect of dobutamine on increasing cardiac output has been demonstrated in hypotensive preterm infants receiving dopamine.												
<b>Drug type</b>	Inotropic agent												
<b>Trade name</b>	Abbott Dobutamine Hydrochloride, Dobutamine Sandoz, Dobutamine Hydrochloride DBL, Dobutrex												
<b>Presentation</b>	250 mg/20 mL injection												
<b>Dose</b>	5–20 microgram/kg/minute												
<b>Dose adjustment</b>													
<b>Maximum dose</b>	Use of up to 20 microgram/kg/min reported in neonates												
<b>Total cumulative dose</b>													
<b>Route</b>	Continuous IV infusion												
<b>Preparation</b>	<p><b>SINGLE STRENGTH continuous IV infusion</b></p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 50%;">Infusion strength</th> <th style="width: 50%;">Prescribed amount</th> </tr> </thead> <tbody> <tr> <td>1 mL/hour = 10 microgram/kg/minute</td> <td>30 mg/kg dobutamine and make up to 50 mL</td> </tr> </tbody> </table> <p>Draw up 2.4 mL/kg (30 mg/kg of dobutamine) and add glucose 5% or sodium chloride 0.9% to make a final volume of 50 mL. Infusing at a rate of <b>1 mL/hour = 10 microgram/kg/minute</b>.</p> <p><b>DOUBLE STRENGTH continuous IV infusion</b></p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 50%;">Infusion strength</th> <th style="width: 50%;">Prescribed amount</th> </tr> </thead> <tbody> <tr> <td>1 mL/hour = 20 microgram/kg/minute</td> <td>60 mg/kg dobutamine and make up to 50 mL</td> </tr> </tbody> </table> <p>Draw up 4.8 mL/kg (60 mg/kg of dobutamine) and add glucose 5% or sodium chloride 0.9% to make a final volume of 50 mL. Infusing at a rate of <b>1 mL/hour = 20 microgram/kg/minute</b>.</p> <p><b>QUADRUPLE STRENGTH continuous IV infusion</b></p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 50%;">Infusion strength</th> <th style="width: 50%;">Prescribed amount</th> </tr> </thead> <tbody> <tr> <td>1 mL/hour = 40 microgram/kg/minute</td> <td>120 mg/kg dobutamine and make up to 50 mL</td> </tr> </tbody> </table> <p>Draw up 9.6 mL/kg (120 mg/kg of dobutamine) and add glucose 5% or sodium chloride 0.9% to make a final volume of 50 mL. Infusing at a rate of <b>1 mL/hour = 40 microgram/kg/minute</b>.</p>	Infusion strength	Prescribed amount	1 mL/hour = 10 microgram/kg/minute	30 mg/kg dobutamine and make up to 50 mL	Infusion strength	Prescribed amount	1 mL/hour = 20 microgram/kg/minute	60 mg/kg dobutamine and make up to 50 mL	Infusion strength	Prescribed amount	1 mL/hour = 40 microgram/kg/minute	120 mg/kg dobutamine and make up to 50 mL
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<b>Administration</b>	Continuous IV infusion preferably via a central line. Do not flush line or suddenly stop infusion. If Dobutrex brand is used reconstitute each vial with 20 mL WFI to make a concentration of 250 mg/20 mL.												
<b>Monitoring</b>	Continuous heart rate, ECG and blood pressure monitoring preferable. Assess urine output and peripheral perfusion frequently.												
<b>Contraindications</b>	Contraindicated in patients with idiopathic hypertrophic sub aortic stenosis and previous hypersensitivity to dobutamine.												
<b>Precautions</b>	May cause hypotension therefore ensure adequate circulating blood volume prior to commencement.												
<b>Drug interactions</b>	No evidence of drug interactions demonstrated in clinical studies. Exert caution when co-administering with drugs which can cause hypertension or tachycardia.												
<b>Adverse reactions</b>	The positive inotropic and chronotropic effects of dobutamine may cause hypertension, tachyarrhythmias, myocardial ischaemia and ventricular fibrillation. Hypotension may result from vasodilation. May cause hypokalaemia. Phlebitis has been reported.												

<b>Compatibility</b>	<p>Fluids: Glucose 5%, glucose 10%, glucose in sodium chloride solutions, glucose 5% in Hartmann's, Hartmann's, sodium chloride 0.9%, sodium chloride 0.45%</p> <p>Y site: Amino acid solutions, adrenaline hydrochloride, amifostine, amiodarone, anidulafungin, atracurium, aztreonam, bivalirudin (dobutamine concentrations up to 4 mg/mL), caspofungin, ciprofloxacin, cisatracurium, dexmedetomidine, dopamine, eptifibatid, fluconazole, glyceryl trinitrate, granisetron, haloperidol lactate, labetalol, linezolid, milrinone, noradrenaline, pancuronium, pethidine, ranitidine, remifentanyl, streptokinase, tigecycline, tirofiban, vecuronium, zidovudine.</p>
<b>Incompatibility</b>	<p>Fluids: Sodium bicarbonate, alkaline solutions, diluents that contain sodium bisulfite and ethanol.</p> <p>Y site: Aciclovir, alteplase, aminophylline, ampicillin, azathioprine, benzylpenicillin, calcium gluconate, cefotaxime, cefoxitin, ceftazidime, ceftriaxone, cephalosporin, chloramphenicol, dexamethasone, ertapenem, esomeprazole, flucloxacillin, folic acid, foscarnet, ganciclovir, heparin sodium, hydrocortisone sodium succinate, indomethacin, ketorolac, phenobarbitone, piperacillin-tazobactam (EDTA-free), potassium chloride, sodium bicarbonate, thiopentone, ticarcillin-clavulanate.</p>
<b>Stability</b>	<p>Reconstituted solution – Dobutrex brand only: Stable for 6 hours at 25°C and 24 hours at 2 to 8°C.</p> <p>Diluted solution – other brands: Stable for 24 hours at 25°C.</p> <p>Solutions may turn pink and colour will increase with time but with no significant loss of potency. Discard solutions that are hazy or contain particles.</p>
<b>Storage</b>	<p>Vial: Store below 25°C. Protect from light. Discard remaining solution after use.</p>
<b>Excipients</b>	
<b>Special comments</b>	Dobutamine should always have a dedicated line to prevent accidental bolus.
<b>Evidence</b>	Refer to full version.
<b>Practice points</b>	Refer to full version.
<b>References</b>	Refer to full version.

<b>VERSION/NUMBER</b>	<b>DATE</b>
Original 1	9/11/2015
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