Dobutamine Intravenous for Adults

Who can administer

Administration RESTRICTED: see Appendix 1

Important information

Cardiovascular monitoring required (see monitoring requirements)

For Y-site compatibility see below

Available preparations

Dobutamine 250mg per 20ml ampoule

Reconstitution

Already in solution

Draw up using a 5 micron filter needle

Dilute further prior to administration

Infusion fluids

Sodium chloride 0.9% or Glucose 5%

Methods of intravenous administration

Continuous intravenous infusion(adminster using an electronically controlled infusion device)

Add 250mg dobutamine to make a final volume of 50ml, 250ml or 500ml of infusion fluid:

Amount to add (mg)	Final vol (ml)	Final concentration	
250mg	50ml	5mg per ml (5,000micrograms per ml) **(usual strength)**	Central line only (unless as part of St Marys ward protocol- CLN-CR-083)
250mg	250ml	1mg per ml (1,000 micrograms per ml)	Central line or large peripheral vein (ref 2)
250mg	500ml	0.5mg per ml (500 micrograms per ml)	

- Set up as a continuous infusion and adjust rate according to dose information opposite
- Provided the concentration is not >5mg/ml, larger volumes of infusion may be prepared e.g. 500mg in 100ml
- **Fluid restricted patients:** If absolutely necessary, anecdotal evidence suggests a 10mg/ml or even undiluted solution may be given via a **central line** (ref 1)

Dose in adults

Usual dose

- 2.5 to 10 microgram/kg/minute, adjusted according to response
- For a 70kg patient (using 250mg in 50ml) this corresponds to 2.1 to 8.4ml/hour
- Doses up to 40 microgram/kg/minute have been required, but this is rare
- It is recommended that treatment with dobutamine should be discontinued gradually

Using a 250mg in 50ml solution				
Dose (micrograms/kg/minute)	**2.5**	**5**	**7.5**	**10**
Weight (KG)	**Rate in ml per hour**			
40	1.2	2.4	3.6	4.8
45	1.4	2.7	4	5.4
50	1.5	3	4.5	6
55	1.7	3.3	5	6.6
60	1.8	3.6	5.4	7.2
65	2	3.9	5.9	7.8
70	2.1	4.2	6.3	8.4
75	2.3	4.5	6.8	9
80	2.4	4.8	7.2	9.6
85	2.6	5.1	7.7	10.2
90	2.7	5.4	8.1	10.8
95	2.9	5.7	8.6	11.4
100	3	6	9	12
105	3.2	6.3	9.5	12.6
110	3.3	6.6	9.9	13.2
115	3.5	6.9	10.4	13.8
120	3.6	7.2	10.8	14.4

Table 1: Dobutamine 250mg in 50ml (5mg per ml) - rates of administration

Other concentrations

- If using a **250mg in 250ml** strength (**1**mg/ml)- you can **multiply the rates in Table 1 by five** to get the appropriate rate in ml/hour
- Example: for a 95kg patient on 5 micrograms/kg/minute- using a 250mg in 50ml solution, the rate is 5.7ml per hour. If using a 250mg in 250ml strength, the rate is 28.5ml per hour

Monitoring

- Heart rate and rhythm, arterial blood pressure and infusion rate should be monitored closely
- **Telemetry monitoring required** (But see also guideline 'Continuous Dobutamine infusion in the

treatment of refractory fluid overload in patients with Advanced Heart Failure in St Marys ward in University Hospital Galway'- see Q-Pulse document CLN-CR-083- telemetry monitoring may not be required in a certain subset of patients)

Further information

- Solutions of dobutamine may have a pink discolouration
- This discolouration, which will increase with time results from a slight oxidation of the drug
- However there is no significant loss of drug potency during the 24 hour infusion period
- For information concerning continuous **dobutamine infusion** in the treatment of refractory fluid overload **in ward areas,** see Q pulse policy CLN-CR-083

Storage

- Store below 25^{0}C
- A slight pink discoloration should not concern those administering the drug

References

SPC November 2020

1: Critical care group. Minimum infusion volumes 4th edition 2012

2: Injectable Medicines Administration Guide Medusa downloaded 8th Dec 2021

Therapeutic classification

Inotropic sympathomimetics