

## USE OF DOBUTAMINE IN THE EMERGENCY DEPARTMENT

Ref No: 3673

**Lead Clinician** : Dr Adrian Marsh, Consultant Emergency Medicine  
**Business Centre** : Emergency & Critical Care Centre  
**Developed (date)** : December 2012  
**Last updated** : May 2013  
**Last reviewed** : May 2013  
**Planned review** : December 2014  
**Hyperlink (where applicable)** :  
**Keywords** : Dobutamine, IV  
**Comments** :

### DOBUTAMINE HYDROCHLORIDE

*Administer dobutamine via a central venous cannula wherever possible. If it must be given peripherally, use a large vein, preferably in the arm*

---

#### INDICATIONS

---

Inotropic support in low output cardiac failure associated with myocardial infarction, cardiogenic shock

---

#### DOSAGE

---

By continuous IV infusion 2.5–10 microgram/kg per min, adjusted according to response.

Maximum dose is 40 micrograms/kg/min. Contact ITU/ cardiology for urgent review before increasing rate beyond 10 micrograms/kg/min,

#### Patient Monitoring

Monitor heart rate and rhythm, BP, cardiac output (if possible), and urine output. If no response, seek advice of ITU /cardiology team **before** increasing dose further.

---

#### NOTES

---

IV solutions prepared as below are stable for 24 hr at room temperature. The solutions may turn pink and the colour may intensify with time, owing to slight oxidation of the drug, but there is no significant potency loss over 24 hr.

The 2 mg/mL solution is preferable where dobutamine is being infused via a peripheral vein.

When withdrawing treatment, reduce dose gradually according to response, rather than discontinuing therapy abruptly.

---

## PREPARATIONS

---

Dobutamine hydrochloride 250 mg in 20 mL vials

---

## DILUENTS

---

Sodium chloride 0.9% or glucose 5%

Dobutamine hydrochloride is incompatible with sodium bicarbonate and other strongly alkaline solutions

### Infusion via syringe pump

See [Table 1](#) for dosage and corresponding pump rate

Using a 50 mL syringe make up 250 mg dobutamine (20 mL) to 50 mL with diluent (see **Diluents**)  
= 5 mg/mL = 5000 microgram/mL

### Minibag infusion via controlled-infusion device

See [Table 2](#) for dosage and corresponding infusion rate

Withdraw 40 mL from a 250 mL bag of diluent (see **Diluents**). Add two 250 mg vials of dobutamine (40 mL) to the bag and mix well.

500 mg in 250 mL = 2 mg/mL = 2000 microgram/mL

---

**Table 1: Infusion via syringe pump (flow rate mL/hr)**

---

Dosage microgram/kg per min	Weight (kg)													
	45	50	55	60	65	70	75	80	85	90	95	100	105	110
2	1.1	1.2	1.3	1.4	1.6	1.7	1.8	1.9	2	2.2	2.3	2.4	2.5	2.6
3	1.6	1.8	2	2.2	2.3	2.5	2.7	2.9	3.1	3.2	3.4	3.6	3.8	4
4	2.2	2.4	2.6	2.9	3.1	3.4	3.6	3.8	4.1	4.3	4.6	4.8	5	5.3
5	2.7	3	3.3	3.6	3.9	4.2	4.5	4.8	5.1	5.4	5.7	6	6.3	6.6
6	3.2	3.6	4	4.3	4.7	5	5.4	5.8	6.1	6.5	6.8	7.2	7.6	7.9
7	3.8	4.2	4.6	5	5.5	5.9	6.3	6.7	7.1	7.6	8	8.4	8.8	9.2
8	4.3	4.8	5.3	5.8	6.2	6.7	7.2	7.7	8.2	8.6	9.1	9.6	10.1	10.6
9	4.9	5.4	5.9	6.5	7	7.6	8.1	8.6	9.2	9.7	10.3	10.8	11.3	11.9
10	5.4	6	6.6	7.2	7.8	8.4	9	9.6	10.2	10.8	11.4	12	12.6	13.2
12	6.5	7.2	7.9	8.6	9.4	10.1	10.8	11.5	12.2	13	13.7	14.4	15.1	15.8
14	7.6	8.4	9.2	10.1	10.9	11.8	12.6	13.4	14.3	15.1	16	16.8	17.6	18.5
16	8.6	9.6	10.6	11.5	12.5	13.4	14.4	15.4	16.3	17.3	18.2	19.2	20.2	21.1
18	9.7	10.8	11.9	13	14	15.1	16.2	17.3	18.4	19.4	20.5	21.6	22.7	23.8
20	10.8	12	13.2	14.4	15.6	16.8	18	19.2	20.4	21.6	22.8	24	25.2	26.4
25	13.5	15	16.5	18	19.5	21	22.5	24	25.5	27	28.5	30	31.5	33
30	16.2	18	19.8	21.6	23.4	25.2	27	28.8	30.6	32.4	34.2	36	37.8	39.6
35	18.9	21	23.1	25.2	27.3	29.4	31.5	33.6	35.7	37.8	39.9	42	44.1	46.2
40	21.6	24	26.4	28.8	31.2	33.6	36	38.4	40.8	43.2	45.6	48	50.4	52.8

**Table 2: Minibag infusion via controlled-infusion device (flow rate mL/hr)**

Dosage Microgram/ kg per min	Weight (kg)													
	45	50	55	60	65	70	75	80	85	90	95	100	105	110
2	3	3	3	4	4	4	5	5	5	5	6	6	6	7
3	4	5	5	5	6	6	7	7	8	8	9	9	9	10
4	5	6	7	7	8	8	9	10	10	11	11	12	13	13
5	7	8	8	9	10	11	11	12	13	14	14	15	16	17
6	8	9	10	11	12	13	14	14	15	16	17	18	19	20
7	9	11	12	13	14	15	16	17	18	19	20	21	22	23
8	11	12	13	14	16	17	18	19	20	22	23	24	25	26
9	12	14	15	16	18	19	20	22	23	24	26	27	28	30
10	14	15	17	18	20	21	23	24	26	27	29	30	32	33
12	16	18	20	22	23	25	27	29	31	32	34	36	38	40
14	19	21	23	25	27	29	32	34	36	38	40	42	44	46
16	22	24	26	29	31	34	36	38	41	43	46	48	50	53
18	24	27	30	32	35	38	41	43	46	49	51	54	57	59
20	27	30	33	36	39	42	45	48	51	54	57	60	63	66
25	34	38	41	45	49	53	56	60	64	68	71	75	79	83
30	41	45	50	54	59	63	68	72	77	81	86	90	95	99
35	47	53	58	63	68	74	79	84	89	95	100	105	110	116
40	54	60	66	72	78	84	90	96	102	108	114	120	126	132