# 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
- **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

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

2: Injectable Medicines Administration Guide Medusa downloaded 18/02/2025

## Therapeutic classification

Inotropic sympathomimetics