

# Dobutamine

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## Sources:

- The two sources of dobutamine in Canada are Sandoz and Hospira:
  - Sandoz: 12.5mg/ml – on emergency allocation; expected resupply in Dec 2013
  - Hospira: 12.5mg/ml – indeterminate availability

## Indications and clinical uses in Canada:

- Used as an inotropic agent to increase cardiac output.
  - Usual dosage is 2-20mcg/kg/min; infusion rate adjusted according to patient's response.

## Treatment alternatives:

### 1) Dopamine Hydrochloride and 5% dextrose injection USP\*

Dopamine can be used to increase cardiac output (like dobutamine), but also has vasopressor effects, which leads to a higher increase in blood pressure and intense vasoconstriction at comparable doses (3). Dopamine can also increase pulmonary artery occlusion pressure, which can worsen hypoxia in patients susceptible to pulmonary edema (4).

Both dopamine and dobutamine will have similar efficacy if administered properly, but dobutamine is typically better tolerated (5)

\*Most preparations of dopamine are also shorted, but some are available through Baxter Canada (1-888-719-9955) during the shortage

### 2) Norepinephrine Bitartrate Injection USP

Norepinephrine is primarily used in cases of shock. It acts as a vasopressor agent to cause vasoconstriction and an increase in blood pressure. Cardiac output will also increase to a similar extent compared with dobutamine and dopamine (6)

Trial published in 2010 in the New England Journal of Medicine (SOAP II Trial) compared dopamine to norepinephrine for treating patients with shock found no difference in the rate of death between norepinephrine and dopamine; however, dopamine was associated with significantly more cardiac arrhythmia than norepinephrine, and therefore may be a more attractive first-line option, especially in patients with pre-existing cardiac conditions, despite both drugs being considered first-line therapies (7).

### 3) Milrinone for heart failure

Decompensated heart failure - In patients with low cardiac output, **milrinone** or **dobutamine** is indicated if the systolic blood pressure is >90 mm Hg (8)

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