

# Esmolol

## Indication

- Supraventricular tachyarrhythmias including atrial fibrillation, atrial flutter and sinus tachycardia.
- Tachycardia and hypertension occurring in the post-operative period.

## Presentation

- 100mg/10mls vials
- 2.5g/250mls (10mg/ml) infusion

## Dose

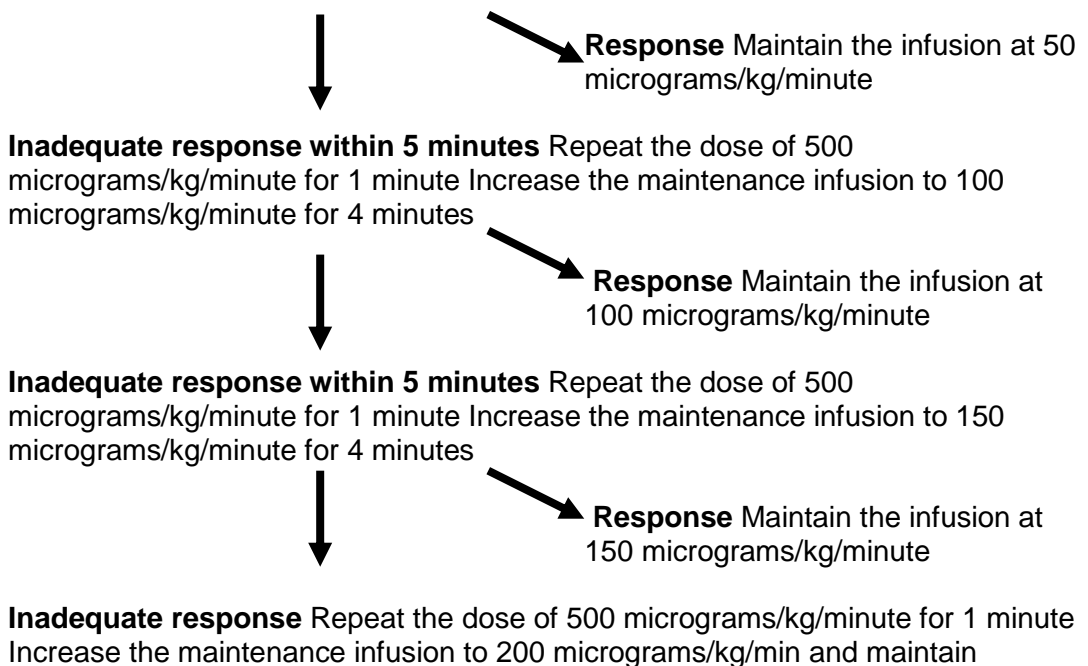
- Loading dose 500micrograms/kg given over 1 minute
- Maintenance Infusion from 50micrograms-200micrograms/kg/min Start infusion at 50micrograms/kg/min and increase at 4 minute intervals until therapeutic or reach maximum dose of 200micrograms/kg/min
- Doses of up to 300micrograms/kg/min have been used in peri-operative tachycardia and hypertension

## Supraventricular Tachyarrhythmia

The Esmolol dosage in supraventricular tachyarrhythmias should be individually titrated. Each step consists of a loading dosage followed by a maintenance dose. The effective maintenance dose is between 50 to 200 micrograms/kg/minute, although doses as low as 25 and as high as 300 micrograms/kg/minute have been used.

### Flow Chart for Initiation and Maintenance of Treatment

Loading dosage infusion of 500 micrograms /kg/minute for 1 minute THEN a maintenance infusion of 50 micrograms/kg/minute for 4 minutes



Loading dose and maintenance doses of Brevibloc to administer for different patient weights are outlined in Table 1 and Table 2 respective

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<b>Volume of esmolol 10mg/ml required for an initial loading dose of 500micrograms/kg/minute. To be administered over 1 minute.</b>									
	<b>Patients weight (kg)</b>								
	<b>40</b>	<b>50</b>	<b>60</b>	<b>70</b>	<b>80</b>	<b>90</b>	<b>100</b>	<b>110</b>	<b>120</b>
Volume (ml)	2	2.5	3	3.5	4	4.5	5	5.5	6

<b>Volume of esmolol 10mg/ml required to provide maintenance doses</b>				
<b>Weight</b>	<b>Starting dose 50micrograms/kg/ min</b>	<b>100micrograms/k g/min</b>	<b>150micrograms/k g/min</b>	<b>200micrograms/k g/min</b>
40kg	12mls/hr	24mls/hr	26mls/hr	48 mls/hr
50kg	15 mls/hr	30mls/hr	45mls/hr	60 mls/hr
60kg	18 mls/hr	36mls/hr	54mls/hr	72 mls/hr
70kg	21 mls/hr	42mls/hr	64mls/hr	84 mls/hr
80kg	24 mls/hr	48mls/hr	72mls/hr	96 mls/hr
90kg	27 mls/hr	54mls/hr	81mls/hr	108 mls/hr
100kg	30 mls/hr	60mls/hr	90mls/hr	120 mls/hr

#### **Other Information**

- The administration of Brevibloc for longer than 24 hours has not been thoroughly evaluated. Infusion durations greater than 24 hours should only be used with caution.
- Esmolol is metabolised by esterase's in red blood cells then the metabolite is excreted renally
- The half life of esmolol is about 9 minutes

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