

ISOPRENALINE

SYNONYMS	Isoprenaline hydrochloride, isoproterenol hydrochloride												
BRAND NAME	ISOPRENALINE HYDROCHLORIDE MEDSURGE												
DRUG CLASS	Sympathomimetic												
AVAILABILITY	Ampoule contains 200 microgram/mL or 1 mg/5 mL of isoprenaline hydrochloride (both labelled 1 in 5000). Also contains disodium edetate, sodium citrate dihydrate, citric acid, sodium chloride and hydrochloric acid or sodium hydroxide. ¹ The solution is clear and colourless to slightly yellow. ¹												
WARNING	Extravasation may cause local ischaemia and necrosis. Do not stop infusions suddenly. Gradual dose reduction is recommended.												
pH	3.0–3.5 ²												
PREPARATION	Not required												
STABILITY	Ampoule: store below 25 °C. Protect from light. ¹ Infusion solution: stable for 24 hours below 25 °C. ¹												
ADMINISTRATION													
IM injection	Suitable. Slower onset than IV. ¹												
SUBCUT injection	Suitable. Slower onset than IV. ¹												
IV injection	Preferred. Dilute 1 mL (200 microgram) with 9 mL of sodium chloride 0.9% or glucose 5% to make a concentration of 20 microgram/mL. ¹												
IV infusion	Preferred. Use a central line and an infusion pump. ³ Continuous cardiac monitoring is required. ^{1,3} Use the 1 mg/5 mL ampoule to prepare the infusion solution. Check your local guidelines before proceeding. Local practice may be different. Dilute 6 mg (30 mL) to 100 mL or 3 mg (15 mL) to 50 mL with glucose 5% to make a concentration of 60 microgram/mL. Start the infusion at a rate of 0.5 to 5 microgram/minute and titrate to effect. Usual doses are 2 to 10 microgram/minute. Over 30 microgram/minute has been used in the advanced stages of shock. ¹												
	<table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th></th> <th>Central line and infusion pump</th> <th>Central line and syringe pump</th> </tr> </thead> <tbody> <tr> <td>Dilute</td> <td>6 mg to 100 mL</td> <td>3 mg to 50 mL</td> </tr> <tr> <td>Concentration</td> <td>60 microgram/mL</td> <td>60 microgram/mL</td> </tr> <tr> <td>1 microgram/minute</td> <td>1 mL/hr</td> <td>1 mL/hr</td> </tr> </tbody> </table>		Central line and infusion pump	Central line and syringe pump	Dilute	6 mg to 100 mL	3 mg to 50 mL	Concentration	60 microgram/mL	60 microgram/mL	1 microgram/minute	1 mL/hr	1 mL/hr
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	A peripheral line can be used in emergency settings while waiting for central access.												
IV use for infants and children	Dilute the dose to 20 microgram/mL or less and give by continuous infusion using an infusion pump. If fluid restricted, a maximum concentration of 64 microgram/mL may be used. ⁴												
Other	Suitable as an intracardiac injection in emergency situations. Use undiluted. ¹ <i>continued over the page</i>												

COMPATIBILITY

Fluids Glucose 5%^{1,5}, Plasma-Lyte 148 via Y-site⁶, sodium chloride 0.9%.¹ Glucose 5% is the preferred fluid in critical care settings.

Y-site **Giving other drugs via Y-site may change the infusion rate of isoprenaline. A dedicated line is preferred.**

At **50 microgram/mL** of isoprenaline: insulin (Novorapid)⁷

At **80 microgram/mL or more** of isoprenaline: heparin⁵, hydrocortisone sodium succinate⁵, sodium nitroprusside⁵

INCOMPATIBILITY Aminophylline⁸, azathioprine⁸, ganciclovir⁸, indometacin⁸, insulin (Actrapid)⁸, sodium bicarbonate⁵

SPECIAL NOTES Onset of action is immediate, duration of effect is 10 to 15 minutes and half-life is 2 to 5 minutes.⁹

Continuous cardiac monitoring is required.¹

REFERENCES

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