

Isoprenaline Infusion

Indications

- Isoprenaline stimulates both β_1 and β_2 adrenoceptors producing an increase in cardiac output by increasing myocardial contractility and heart rate.
- Isoprenaline is used to treat severe bradycardia where use of electronic temporary pacing is not feasible or appropriate.
- Isoprenaline can be used for cardiogenic or endotoxic shock and acute Stokes-Adams attacks.
- Isoprenaline should be carefully titrated under close monitoring to the lowest possible dose that obtains a heart rate of 50-60 beats per minute.
- The recommended start dose is 0.01 microgram/kg/minute.
- The dose can be increased in increments of 0.01 microgram/kg/minute until a maximal dose of 0.15 microgram/kg/minute.
- The rate of infusion should be adjusted based on the heart rate of the patient.
- Isoprenaline is available as a licensed 1mg/5ml (200microgram/ml) ampoule

Method of administration

- Intravenous use.
- Dilute 10 ml (2 ampoules x 5 ml) of concentrate for infusion (= 2.0 mg) in 500 ml of sodium chloride 0.9 % solution **or** glucose 5 % solution. This gives a concentration of 4 microgram/ml isoprenaline solution of infusion.

Infusion rate

See appendix 1

Cautions

Isoprenaline should be used with caution in patients with ischaemic heart disease, diabetes, hypertension and hyperthyroidism.

Side effects

Arrhythmias, sweating, tremor, headache and flushing

References

Isoprenaline Macure 0.2mg/ml concentrate for solution for infusion
Macure Pharma UK Ltd Accessed online

Appendix 1

ml/hr		Rate mcg/kg/min														
		0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09	0.1	0.11	0.12	0.13	0.14	0.15
Weight	45	6.75	13.50	20.25	27.00	33.75	40.50	47.25	54.00	60.75	67.50	74.25	81.00	87.75	94.50	101.25
	50	7.50	15.00	22.50	30.00	37.50	45.00	52.50	60.00	67.50	75.00	82.50	90.00	97.50	105.00	112.50
	55	8.25	16.50	24.75	33.00	41.25	49.50	57.75	66.00	74.25	82.50	90.75	99.00	107.25	115.50	123.75
	60	9.00	18.00	27.00	36.00	45.00	54.00	63.00	72.00	81.00	90.00	99.00	108.00	117.00	126.00	135.00
	65	9.75	19.50	29.25	39.00	48.75	58.50	68.25	78.00	87.75	97.50	107.25	117.00	126.75	136.50	146.25
	70	10.50	21.00	31.50	42.00	52.50	63.00	73.50	84.00	94.50	105.00	115.50	126.00	136.50	147.00	157.50
	75	11.25	22.50	33.75	45.00	56.25	67.50	78.75	90.00	101.25	112.50	123.75	135.00	146.25	157.50	168.75
	80	12.00	24.00	36.00	48.00	60.00	72.00	84.00	96.00	108.00	120.00	132.00	144.00	156.00	168.00	180.00
	85	12.75	25.50	38.25	51.00	63.75	76.50	89.25	102.00	114.75	127.50	140.25	153.00	165.75	178.50	191.25
	90	13.50	27.00	40.50	54.00	67.50	81.00	94.50	108.00	121.50	135.00	148.50	162.00	175.50	189.00	202.50
	95	14.25	28.50	42.75	57.00	71.25	85.50	99.75	114.00	128.25	142.50	156.75	171.00	185.25	199.50	213.75
	100	15.00	30.00	45.00	60.00	75.00	90.00	105.00	120.00	135.00	150.00	165.00	180.00	195.00	210.00	225.00
	105	15.75	31.50	47.25	63.00	78.75	94.50	110.25	126.00	141.75	157.50	173.25	189.00	204.75	220.50	236.25
	110	16.50	33.00	49.50	66.00	82.50	99.00	115.50	132.00	148.50	165.00	181.50	198.00	214.50	231.00	247.50
	115	17.25	34.50	51.75	69.00	86.25	103.50	120.75	138.00	155.25	172.50	189.75	207.00	224.25	241.50	258.75
120	18.00	36.00	54.00	72.00	90.00	108.00	126.00	144.00	162.00	180.00	198.00	216.00	234.00	252.00	270.00	

