Isoprenaline Hydrochloride Intravenous for Adults

Who can administer

Administration restricted- see appendix 1

Important information

Doses in the literature are usually given as Isoprenaline **hydrochloride.**

Doses are not equivalent for isoprenaline **sulphate.** Take care to use the correct version, or doses would have to be adjusted.

Available preparations

Isoprenaline **hydrochloride** 1mg in 5ml (0.2mg in 1ml, 200 micrograms in 1ml) Macure

Isoprenaline **hydrochloride** (Isoprenalina cloridrato monico) 0.2mg in 1ml (200 micrograms in 1ml) (unlicensed)

Reconstitution

Already in solution

Draw up using a 5 micron filter needle

Infusion fluids

Glucose 5% (preferred[ref 2]) or Sodium chloride 0.9%Â

Methods of intravenous administration

Intravenous infusion (administer using an electronically controlled infusion device)

- Not fluid restricted
    - Add **2mg** (= 10mL of 0.2mg/1mL injection solution) **to 490mL** infusion fluid
    - This produces a solution containing **4 microgram per ml**
- **Fluid restriction** [ref 2]
    - Add 4mg (= 20mL of 0.2mg/1mL injection solution) to 30mL infusion fluid (= 4mg in 50mL)

- This produces a solution containing **80microgram per ml**
- **Central venous access** required for this concentration

Dose in adults

Bradycardia due to AV block

Continuous IV infusion

- **Starting dose:** 0.01mcg/kg/minute
- Increase in 0.01mcg/kg/minute increments, to a maximum dose of 0.15mcg/kg/minute, adjusted to achieve a heart rate of 50 to 60 beats per minute
- See tables below (different infusion volume strengths)

Dosage table for Bradycardia due to AV block - using a 4mcg per mL solution

Dose(mcg/kg/min)	Weight 55kg	Weight 60kg	Weight 65kg	Weight 70kg	Weight 75kg	Weight 80kg	Weight 85kg	Weight 90kg	Weight 95kg	Weight 100kg
Â	Rate in ml/hour of a 4microgram/ml solution prepared as above									
0.01	8.3	9	9.8	10.5	11.3	12	12.8	13.5	14.3	15
0.02	16.5	18	19.5	21	22.5	24	25.5	27	28.5	30
0.03	24.8	27	29.3	31.5	33.8	36	38.3	40.5	42.8	45
0.04	33	36	39	42	45	48	51	54	57	60
0.05	41.3	45	48.8	52.5	56.3	60	63.8	67.5	71.3	75
0.1	82.5	90	97.5	105	112.5	120	127.5	135	142.5	150
0.15	123.8	135	146.3	157.5	168.8	180	191.3	202.5	213.8	225

Dosage table for Bradycardia due to AV block - using an 80mcg per mL solution

Dose(mcg/kg/min)	Weight 55kg	Weight 60kg	Weight 65kg	Weight 70kg	Weight 75kg	Weight 80kg	Weight 85kg	Weight 90kg	Weight 95kg	Weight 100kg
Â	Rate in ml/hour of an 80 microgram/ml solution prepared as above									
0.01	0.41	0.45	0.49	0.53	0.56	0.6	0.64	0.68	0.71	0.75
0.03	1.24	1.35	1.46	1.58	1.69	1.8	1.91	2.02	2.14	2.25
0.05	2.06	2.25	2.44	2.62	2.81	3	3.19	3.38	3.56	3.75
0.07	2.89	3.15	3.41	3.68	3.94	4.2	4.46	4.72	4.99	5.25
0.09	3.71	4.05	4.39	4.72	5.06	5.4	5.74	6.08	6.41	6.75
0.11	4.54	4.95	5.36	5.78	6.19	6.6	7.01	7.43	7.84	8.25
0.13	5.36	5.85	6.34	6.83	7.31	7.8	8.29	8.78	9.26	9.75
0.15	6.19	6.75	7.31	7.88	8.44	9	9.56	10.13	10.69	11.25

Titrate to patient response.

Monitoring

- Monitor ECG continuously

Further information

Search synonym: Isoproterenol

Storage

- Macure brand: Store at room temperature. Do not freeze.
- Unlicensed brand: Store <15^{0}C.[ref 1]
- Do not use if solution is coloured (pink to pinky-brown) or a precipitate is present.

References

SPC (Macure pharma) June 2022

1: SPC (translated) document downloaded 7th Feb 2019

2. Injectable medicines guide, downloaded from Medusa 17/02/2025

Therapeutic classification

Adrenergic and dopaminergic agent. Inotrope sympathomimetic