

DOPAMINE (INTROPIN)

Drug Classification: Adrenergic agonist, inotropic vasopressor

BACKGROUND

Pharmacodynamics

Dopamine stimulates alpha and beta-adrenergic receptors. At moderate doses, dopamine stimulates beta1 receptors, resulting in inotropy and increased cardiac output while maintaining dopaminergic induced vasodilatory effects. At high doses, alpha-adrenergic agonism predominates, and increased peripheral vascular resistance and vasoconstriction results. Onset is less than 5 minutes.

Indications

- Symptomatic hypotension not related to hypovolemia
- Symptomatic bradycardia unresponsive to **atropine**.
- Management of post resuscitation shock (ROSC)
- Persistent hypotension secondary to hypovolemia unresponsive to aggressive fluid resuscitation.

Contraindications

- Do not use in hypovolemia before aggressive fluid resuscitation.

Cautions

- May increase heart rate and induce supraventricular or ventricular tachycardia.
- This medication is caustic and will cause tissue necrosis if it infiltrates.
- Sodium bicarbonate inactivates dopamine.
- Beta-blockers antagonize dopamine's cardiac effect.

DOSAGE and ADMINISTRATION

ADULT	PEDIATRICS (less than 60 kg)
<p><u>ROSC from VF/VT</u></p> <ol style="list-style-type: none">1. Flush line with medication then begin initial administration at 60 gtt/min using 60 gtt tubing. Titrate to heart rate of 100-110 bpm.¹2. Once an effect on heart rate has been observed, continue infusion at 5 mcg/kg/min. Titrate up to 20 mcg/kg/min to maintain a MAP of at least 65 mmHg.3. See chart on Page 3 for drip rates.	<ol style="list-style-type: none">1. Administer 2-20 mcg/kg/min IV/IO infusion.2. Dopamine can be administered either through 60 gtt tubing via infusion pump or using 60 gtt tubing without pump.3. Using 60 gtt tubing without pump, run the Dopamine wide open. Titrate to 100-110 bpm².

HEALTHEAST MEDICAL TRANSPORTATION
MEDICAL OPERATIONS MANUAL

ADULT	PEDIATRICS (less than 60 kg)
<p><u>Hypotension</u></p> <p>Administer 5-20 mcg/kg/min IV/IO infusion.</p> <ol style="list-style-type: none">1. Flush line with medication then begin initial administration at 60 gtts/min using 60 gtt tubing. Titrate to 100-110 bpm².2. Once an effect on heart rate has been observed, continue infusion at 5 mcg/kg/min. Titrate up to 20 mcg/kg/min to maintain a MAP of at least 65 mmHg.3. See chart on Page 3 for drip rates.	

ADVERSE REACTIONS/SIDE EFFECTS

- Tachycardia, arrhythmias, tissue necrosis at IV site, hypertension, dyspnea, headache, nausea, and vomiting.

NOTES

¹ If a marked decrease in pulse pressure and disproportionate increase in diastolic BP are observed, the rate of infusion should be decreased and the patient monitored for further evidence of predominant vasoconstrictive activity. If an increased number of ectopic beats are observed, the dose should be reduced.

² Dopamine can be administered either through 60 gtt/ml (micro-drip) tubing with or without an infusion pump.

REFERENCE GUIDELINE:

2F Post-Arrest Management

2G Bradycardia/Heart Block

3L Gastrointestinal Emergencies

HEALTHEAST MEDICAL TRANSPORTATION
MEDICAL OPERATIONS MANUAL

DOPAMINE DRIP CHART					
400 mg in 250 mL NS (60 gtt tubing)					
Dosage mcg/kg/min →	2.5	5	10	15	20
↓ Body weight	FLOW RATE IN DROPS/MIN				
22 lbs/10 kg	1	2	4	6	8
33 lbs/15 kg	1	3	6	9	12
44 lbs/20 kg	2	4	8	12	15
55 lbs/25 kg	2	5	10	15	19
66 lbs/30 kg	3	6	12	17	23
77 lbs/35 kg	3	7	14	20	27
88 lbs/40 kg	4	8	15	23	30
99 lbs/45 kg	4	9	17	26	34
110 lbs/50 kg	5	10	19	29	38
121 lbs/55 kg	5	11	21	31	42
132 lbs/60 kg	6	12	23	34	45
143 lbs/65 kg	6	13	25	37	49
154 lbs/70 kg	7	14	27	40	53
165 lbs/75 kg	7	15	29	43	57
176 lbs/80 kg	8	15	30	45	60
187 lbs/85 kg	8	16	32	48	64
198 lbs/90 kg	8	17	34	51	68
209 lbs/95 kg	9	18	36	54	72
220 lbs/100 kg	9	19	38	57	75
231 lbs/105 kg	10	20	40	60	79
242 lbs/110 kg	10	21	42	62	83
Ideal body weight					
	Females			Males	
5'2"	126 lbs/57 kg			139 lbs/63 kg	
5'6"	140 lbs/64 kg			150 lbs/68 kg	
6'	159 lbs/72 kg			169 lbs/77 kg	