

# RX

**Drug Name: Dopamine Hydrochloride**

**Trade Name: Dopamine, Intropin**

**Class:**

Adrenergic Dopaminergic Catecholamine  
Sympathomimetic

**Mechanism of Action:**

Naturally occurring catecholamine that is the chemical precursor of norepinephrine. Is generally dose dependant on its effects.

1-2  $\mu\text{g}/\text{kg}/\text{min}$ --dopaminergic receptors--dilation of renal, mesenteric, and cerebral arteries

2-10  $\mu\text{g}/\text{kg}/\text{min}$ --beta receptors--inotropic, chronotropic

10-20  $\mu\text{g}/\text{kg}/\text{min}$ --alpha & beta--vasoconstriction of renal, mesenteric, and peripheral arteries and veins

>20  $\mu\text{g}/\text{kg}/\text{min}$ --Mimics pure alpha effects similar, to norepinephrine like effects. It is occasionally used at this range in-hospital.

**Indications:**

- Cardiogenic Shock
- Cardiogenic Shock w/ Pulmonary Edema (CHF)
- Hypovolemic Shock / Hypotension (after fluid resuscitation)
- Neurogenic Shock
- Septic Shock

**Contraindications:**

Women on oxytocin  
Tachydysrhythmias  
VF/VT  
Uncorrected hypovolemia  
Patients with known pheochromocytoma

**Precautions:**

MAOIs, TCAs, other cardiac stimulants, vasopressors, will cause increased heart rate, and SV dysrhythmias

Will precipitate in basic, alkaline solutions

May cause necrosis, sloughing at infusion site

Pregnancy (C)

**Dosage:**

**Adults:**

2-20  $\mu\text{g}/\text{kg}/\text{min}$ , occasionally up to 50  $\mu\text{g}/\text{kg}/\text{min}$ , generally not exceeding 20  $\mu\text{g}/\text{kg}/\text{min}$  without medical control guidance.

Titrate to effect, run through a large vein.

Generally add two vials 200 mg to 250 ml NS, yielding 1600  $\mu\text{g}/\text{ml}$ , although some alternative methods exist

**Pediatrics:**

2-20  $\mu\text{g}/\text{kg}/\text{min}$ , with 10  $\mu\text{g}/\text{kg}/\text{min}$  is a reasonable starting dose, titrated to effect, generally not exceeding 20  $\mu\text{g}/\text{kg}/\text{min}$ .

Add 6 mg x weight in kg diluted to 100 ml, to create drip.

**1gtt/min (cc/hr) equals 1  $\mu\text{g}/\text{kg}/\text{min}$ .**

**Onset:**

2-4 min.

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**Duration:**

10-15 min

**Side Effects:**

Dysrhythmias	Flushing
HTN, Headache	Angina, AMI
Nausea & Vomiting	Pain
Dizziness	Ectopy
Tremors	Bradycardia
Tachycardia, Including ventricular fibrillation, ventricular tachycardia	

**Interactions:**

Potentiating effects--TCAs, MAOIs, bretylium  
Precipitates in Alkaline Solutions  
Dopamine may cause hypotension when used concomitantly with phenytoin (Dilantin)

**PEARLS:**

- Can cause tissue necrosis and sloughing. Take care to avoid infiltration, use central intravenous access or the large veins of the arm
- Titrate dosage to patient's hemodynamic response

**Dopamine Infusion Matrix**

Recommended Infusion Rates for Dopamine														
Mix 400 mg / 250 cc for a 1600mcg/1 cc concentration.														
Dose	Patient Weight													
	40	50	60	70	80	90	100	110	120	130	140	150	160	170
5	8	9	11	13	15	17	19	21	23	24	26	28	30	32
7	11	13	16	18	21	24	26	29	32	34	37	39	42	45
10	15	19	23	26	30	34	38	41	45	49	53	56	60	64
15	23	28	34	39	45	51	56	62	68	73	79	84	90	96
20	30	38	45	53	60	68	75	83	90	98	105	113	120	128