



DOPAMINE HYDROCHLORIDE (INTROPIN)



Escambia County, Florida - ALS/BLS Medical Protocol

ACTIONS

Dopamine stimulates dopaminergic beta-adrenergic and alpha-adrenergic receptors of the sympathetic nervous system. It exerts an inotropic effect on the myocardium resulting in an increased cardiac output.

Dopamine produces less increase in myocardial oxygen consumption than does isoproterenol and its use is usually not associated with a tachyrrhythmia.

Dopamine dilates renal and mesenteric blood vessels at low doses that may not increase heart rate or blood pressure.

Therapeutic doses have predominant beta adrenergic receptor stimulating actions that result in increases in cardiac output without marked increases in pulmonary occlusive pressure. At high doses, Dopamine has alpha receptor stimulating actions that result in peripheral vasoconstriction and marked increases in pulmonary occlusive pressure.

INDICATIONS

To treat shock and correct hemodynamic imbalances, improve perfusion to vital organs and to increase cardiac output.

CONTRAINDICATIONS

Dopamine should not be used in patients with pheochromocytoma or hypovolemic shock.

ADVERSE REACTIONS AND SIDE EFFECTS

CNS: Headache.


Cardio: Ectopic beats, tachycardia, anginal pain, palpitations, hypotension.



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GI: Nausea, vomiting.

Local: Necrosis and tissue sloughing with extravasation.

Other: Piloerection, dyspnea.

WARNINGS

Do not administer Dopamine in the presence of uncorrected tachydysrhythmias or ventricular fibrillation.

Do not add Dopamine to any alkaline diluent solution since the drug is inactivated in alkaline solution.

Patients who have been treated with monoamine oxidase (MAO) inhibitors will require substantially reduced dosage.

MAO inhibitors include:

furazolidone (Furoxone)

isocarboxazid (Marplan)

pargyline hydrochloride (Eutonyl)

pargyline hydrochloride with methyclothiazide (Eutron)

phenelzine sulfate (Nardil)

procarbazine Hydrochloride (Matulane)


tranylcypromine sulfate (Parnate)



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DOSAGE

Adult: Mix Dopamine in Normal Saline to yield a concentration of 800 or 1600 mcg / ml.

Begin infusion at 5 mcg / kg / min and titrate to effect.

Dosages of over 20 mcg / kg / min have been required occasionally to obtain desired effect.

Mix 400 mg in 250 ml of Normal Saline Concentration = 1600 mcg/ml

NOTES

Dosage: 5-15 mcg/kg/min

Using a microdrip (60 gtt/ml):

15 gtt/min = 400 mcg/min
30 gtt/min = 800 mcg/min
45 gtt/min = 1200 mcg/min
60 gtt/min = 1600 mcg/min

Alternately, mix 400 mg in 500 ml of Normal Saline Concentration = 800 mcg/ml

Using a microdrip (60 gtt/ml):

30 gtt/min = 400 mcg/min
60 gtt/min = 800 mcg/min
90 gtt/min = 1200 mcg/min
120 gtt/min = 1600 mcg/min

Quick Calculation


Take patient's weight in pounds, drop the last number and then subtract 2. This will give you the starting drip rate at 5 mcg/kg/min.



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For every change in micrograms, add or subtract 3 drops.

Example:

Patient weighs 175 lb.

$175 \text{ drop } 5 = 17$

$17 - 2 = 15$

$5 \text{ mcg/kg/min} = 15 \text{ gtts/min}$

$6 \text{ mcg/kg/min} = 15 + 3 = 18 \text{ gtts/min}$

(Note that this quick calculation is a very close approximate dose)

DOPAMINE DRIP CHART FOR ADULTS

FOR A CONCENTRATION OF **1600** μg of DOPAMINE PER MILLILITER SOLUTION

Two 5 ml ampules of Dopamine (200 mg of dopamine per ampule) mixed in 250 ml of NS.


Body Weight		50	55	60	65	70	75	80	85	90	95	100	105	110
kg		110	121	132	143	154	165	176	187	198	209	220	231	242
$\mu\text{g/min.}$	5 μg	9		11		13		15		17		19		21
	10 μg	19	21	23	25	27	29	31	32	34	36	38	40	42
	15 μg	29	32	34	37	40	43	46	49	52	54	57	60	63
	20 μg	38	42	46	50	53	57	61	65	69	73	76	80	84
FLOW RATE IN DROPS PER MINUTE based on a microdrip calibration of 60 drops equal to 1.0 milliliter														



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