

<b>Medication:</b> Dopamine	<b>PDN:</b> 6927.03	<b>Last Updated:</b> February 1, 2016	<b>PMD:</b> Andrew Travers*	<b>PDC:</b> Steven Carrigan*	Page 1 of 2
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## DOPAMINE

### 1.0 Classification

- Sympathomimetic

### 2.0 Mechanism of Action

- Dopamine increases cardiac output, maintains renal and mesenteric blood flow, causes vasoconstriction and increases systolic blood pressure

### 3.0 Indications

- Undifferentiated shock not suspected to be due to hypovolemia
- Symptomatic or hemodynamically unstable bradycardia

### 4.0 Contraindications

- Hypovolemia (hemorrhage, dehydration)

### 5.0 Precautions

- Extravasation of dopamine may lead to tissue necrosis
- Doses exceeding 20 mcg/kg/min will have no beneficial effect
- Dopamine should not be administered with sodium bicarbonate simultaneously as dopamine is inactivated in alkaline solutions

### 6.0 Route

- May be given IV/IO

### 7.0 Dosage

#### Adult

- The infusion rate is set according to concentration of drug. Start at 5 mcg/kg/min; refer to drip rate chart below. If no change in blood pressure within 5 minutes, increase dose by 3-5 mcg/kg/min every 2 minutes until systolic blood pressure is above 90mmHg.

Weight (kg)	50	60	70	80	80	100
Dose (mcg/kg/min)	Rate (mL/hr)					
2	4	4	5	6	7	7
3	6	7	8	9	10	11
4	7	9	10	12	13	15
5	9	11	13	15	17	19
6	11	13	16	18	20	22
7	13	16	18	21	24	26

8	15	18	21	24	27	30
9	17	20	24	27	30	34
10	19	22	26	30	34	37
12	22	27	31	36	40	45
15	28	34	39	45	51	56
20	37	45	52	60	67	75
25	47	56	66	75	84	94

#### **Pediatric**

- The infusion rate is set according to concentration of drug. Start at 5 mcg/kg/min. If no change in blood pressure within 5 minutes, increase dose by 3-5 mcg/kg/min every 2 minutes until patient is no longer hypotensive [note that hypotension in child 1-10 years of age is anything less than 70mmHg + (age x 2)].

#### **8.0 Supplied**

- Premixed as 800 mg in 500 mL bag (1600 mcg/mL)

#### **9.0 May Be Given By**

- ACP/CCP

#### **10.0 Adverse effects**

- Hypertension
- Arrhythmia
- Palpitations
- Nausea/vomiting

#### **11.0 Special notes**

- Shock patients require aggressive fluid administration (especially septic shock) therefore normal saline should be initiated prior to dopamine administration
- Focus on fluid administration in patients with hypovolemic shock
- Dosage calculation should be based on ideal body weight
- Pregnancy category C [if the patient will benefit from a Category C drug, it is generally used]

#### **12.0 References**

- Out-of-Hospital Cardiac Arrest Clinical Practice Guideline
- Arrhythmia Clinical Practice Guideline
- Shock Clinical Practice Guideline
- Sepsis Clinical Practice Guideline
- Compendium of Pharmaceuticals and Specialties (CPS)

\*Electronically Signed

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