

Subject: Scope of Practice/Procedure – ALS  
**Dopamine Hydrochloride**

Associated Policies:

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- I. Class
  - A. Sympathomimetic. Stimulates dopaminergic,  $\beta$  adrenergic, and  $\alpha$ -adrenergic receptors. Effects are dose related.
- II. Therapeutic Effects
  - A. Increases cardiac output by increasing contractility and stroke volume, thereby increasing blood pressure.
  - B. Selectively dilates blood vessels supplying the brain, kidneys, heart, and gastrointestinal tract at certain infusion rates.
  - C. Increases heart rate.
- III. Indications
  - A. Hemodynamically significant hypotension in the absence of hypovolemia.
  - B. Cardiogenic shock.
  - C. Low cardiac output following resuscitation.
  - D. Symptomatic bradycardia.
  - E. Continuing hypovolemic shock after sufficient volume replacement.
- IV. Contraindications
  - A. Absolute:
    - 1. None for field use.
  - B. Relative:
    - 1. Pulmonary congestion.
- V. Adverse Effects
  - A. Ventricular irritability.
  - B. Nausea, vomiting and angina (rarely).
  - C. Dose related hypertension, tachycardia and severe vasoconstriction.
  - D. Increased myocardial oxygen demand.
  - E. Hypotension can occur at low infusion rates.
  - F. Increased pulmonary congestion.
- VI. Administration and Dosage
  - A. Adult dose range: beginning at 2-5 mcg/kg/minute. Total dose range of 2-20 mcg/kg/minute.
  - B. If Dopamine drip infusion is not available a solution can be made with the following process:
    - 1. Add 800 mg to 500 ml IV solution for a concentration of 1600 mcg/ml. Or use premixed solution with a concentration of 1600 mcg/ml.

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*Recommended infusion rates:*

µg/kg min	ADULT PATIENT WEIGHT IN KGS											
	50	55	60	65	70	75	80	85	90	95	100	110
2mcg	4	5	5	5	5	5	6	6	7	7	8	10
5mcg	9	10	11	12	13	14	15	16	17	18	19	21
10mcg	19	21	22	25	26	28	30	32	34	35	38	41
15mcg	28	31	33	37	39	42	45	48	51	52	57	62
20mcg	38	41	45	49	53	55	60	63	68	70	75	83

*Microdrops(60 gtts) per minute ( ml/hr)*

- C. Pediatric dose range: beginning at 1-2 mcg/kg/minute. Total dose range 2-20 mcg/kg/minute.
1. Refer to Pediatric Resuscitation Tape for specific ml of medication to add and ml of solution to remove from a 100 ml bag to achieve desired weight specific concentration and delivery dose, or
  2. Dilute 6 mg/kg in enough NS to create a 100 ml infusion solution. 1 ml/hr (one (1) drop per minute) delivers 1 mcg/kg/minute. Begin the initial infusion rate at 2-5 mcg/kg/minute IV or IO, then titrate to the desired effect.

VII. Special Information

- A. Infuse through large, stable IV to avoid the possibility of extravasation injury.
- B. Effects cease ten (10) minutes after infusion is stopped.
- C. May be deactivated by alkaline solutions including sodium bicarbonate and furosemide.

Approved:  Date: 5/22/20

Approved as to Form:  Date: 5/22/20