AUTHORIZED BY: CPC Quality of Care Committee
ISSUE DATE: June 2002
CATEGORY: ACP Medications
TITLE: **DOPAMINE**

REVISION DATE: Sept 2018

Other Names:
- Intropin

Classifications:
- Sympathomimetic

Pharmacodynamics:
- Dopaminergic effects 0.5 - 5.0 µg/kg/min. (Renal Dose)
- β_1 effects 5 - 10 µg/kg/min. (Cardiac Dose)
- Alpha effects 10 - 20 µg/kg/min. (Vasopressor Dose)

Onset:
- < 10 min.

Peak:
- < 10 min.

Duration:
- < 10 min.

Indications:
- To correct hemodynamic imbalances in shock-like status i.e. MI, endotoxic septicemia
- To increase renal blood flow & urine output (Dopaminergic effect)
- ROSC with persistent hypotension
- Unstable bradycardia

Contraindications:
- Allergy or sensitivity
- Patients with pheochromocytoma
- Tachydysrhythmias excluding Sinus Tachycardia
- Mechanical shock states
- Hypovolemia
- Extreme caution must be used if patient on Monoamine Oxidase inhibitor

Precautions:
- May cause Supraventricular Tachycardia, Ventricular Tachycardia and compromise cardiac output
- Correct hypovolemic states prior to considering Dopamine

Adverse Reactions:
- Ectopic beats, tachycardia, anginal pain, palpitations (Antidote: beta-adrenergic blocking agents)
- Vasoconstriction (Antidote: alpha-adrenergic blocking agents)
- Hypotension, dyspnea, nausea, vomiting & headache
- Less frequently: cardiac conduction abnormalities, widened QRS complex, bradycardia, hypertension, Ventricular arrhythmias
- Overdose results in hypertension & reduced urine output

Drug Interactions:
- Inactivated in alkaline media (i.e. sodium bicarb solutions)

Special Considerations:
- Dopamine Calculation: *µg/kg/min = gtts/min in a 60 gtt set. (micro) preparation*
- Alkalytic states & hypovolemia should be corrected prior to the use of dopamine
- Extravasation may cause peripheral gangrene, necrosis & sloughing of surrounding tissue (Antidote: Phentolamine 5 - 10 mg diluted with 10 - 15 ml NS)

Preparations:

- Preparation Calculation: $\frac{\textit{Dopamine mg x 1000}}{\textit{NS Volume ml}} = \textit{µg/ml}$

Current Paramedic Preparation: $\frac{200 \text{ mg} \times 1000}{250 \text{ ml NS}} = 800 \text{ µg/ml}$

References:

- Compendium of Pharmaceutical and Specialties 2013
- Ontario Provincial ALS Patient Care Standards, Version 4.5
- 2015 AHA Guidelines: ACLS

NOTE: ***The information contained herein does not supersede or negate the MoHLTC Provincial Medical Directives and should only serve as general information about the medication itself. For medication dosages, please refer to the current version of the Ontario Provincial ALS Patient Care Standards.***