Medication Reference

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CATEGORY: ACP/PCP Medications

TITLE: **Nitroglycerin**

Other Names:
- Tridil, Nitrol, Nitrong, Nitroderm, Nitrodur

Classifications:
- Anti-anginal

Pharmacodynamics:
- Produces generalized vasodilation. Both arterial and venous dilation occur, although venous effects predominate
- NTG releases nitric oxide in vascular endothelial cells. Nitric oxide is a gas, which when released in vascular smooth muscle, results in the formation of cyclic guanosine monophosphate (c-GMP). C-GMP relaxes vascular smooth muscle by inactivating myosin kinase or myosin phosphate
- Decreases preload, decreases the oxygen requirement of the myocardium (MVO_2)

Onset:
- 2 - 4 min

Peak:
- 5 - 10 min

Duration:
- 10 - 30 min

Indications:
- Suspected Myocardial Ischemia
- Acute Pulmonary Edema

Contraindications:
- Allergy or Hypersensitivity
- Hypotension
- Pulse < 60 or ≥ 160 bpm
- Patients have taken a phosphodiesterase-5 (PDE-5) inhibitor within 48 hrs
- Unconscious
- Cardiac Ischemia patients with no previous use and with no IV access
- 12 Lead ECG compatible with Right Ventricular Infarct
- Patients < 18 years of age
- SBP drops by 1/3 of its initial value post administration
- Patients with severe anemia, closed angle glaucoma, increased intracranial pressure and acute circulatory failure.

Precautions:
- Nitrates in all forms are contraindicated in patients with initial systolic blood pressure <90 mm Hg.
- Caution is advised in patients with known inferior wall STEMI, and a right-sided ECG should be performed to evaluate RV infarction.
- Administer nitrates with extreme caution, if at all, to patients with inferior STEMI and suspected right ventricular (RV) involvement because these patients require adequate RV preload.

Adverse Reactions:
- Hypotension
- Reflex tachycardia
- Headache
- Nausea & dizziness

Special Considerations:
- Vital signs must be obtained before each Nitro administration

Preparations:

- Tablets: 0.3, 0.4 or 0.6 SL
- Sublingual spray: 0.4 mg SL
- Transdermal: 0.02 mg/cm^2

References:

- Compendium of Pharmaceuticals 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.***